



CITY COUNCIL
Maureen Toms, Mayor
Cameron Sasai, Mayor Pro Tem
Anthony Tave, Council Member
Norma Martínez-Rubin, Council Member
Devin T. Murphy, Council Member

PINOLE CITY COUNCIL MEETING AGENDA

August 20, 2024

5:00 PM

Attend in Person: PINOLE CITY COUNCIL CHAMBERS - 2131 PEAR STREET

OR *HYATT REGENCY - 151 EAST WACKER DRIVE, CHICAGO, IL (TELECONFERENCE - COUNCILMEMBER MURPHY)
OR

Attend VIA ZOOM TELECONFERENCE – Details provided below

How to Submit Public Comments:

In Person:

Attend meeting at the Pinole City Council Chambers, fill out a yellow public comment card and submit it to the City Clerk.

Via Zoom:

Members of the public may submit a live remote public comment via Zoom video conferencing. Download the Zoom mobile app from the Apple Appstore or Google Play. If you are using a desktop computer, you can test your connection to Zoom by clicking [here](#). Zoom also allows you to join the meeting by phone.

From a PC, Mac, iPad, iPhone or Android:

<https://us02web.zoom.us/j/89335000272>

Webinar ID: 893 3500 0272

By phone: +1 (669) 900-6833 or +1 (253) 215-8782 or +1 (346) 248-7799

- Speakers will be asked to provide their name and city of residence, although providing this is not required for participation.
- Each speaker will be afforded up to 3 minutes to speak (subject to modification by the Mayor)
- Speakers will be muted until their opportunity to provide public comment.

When the Mayor opens the comment period for the item you wish to speak on, please use the “raise hand” feature (or press *9 if connecting via telephone) which will alert staff that you have a comment to provide and press *6 to unmute. To comment with your video enabled, please let the City Clerk know you would like to turn your camera on once you are called to speak.

Written Comments:

All comments received **before 3:00 pm the day of the meeting** will be posted on the City’s website on the agenda page (Agenda Page Link) and provided to the City Council prior to the meeting. Written comments will not be read aloud during the meeting. **Email comments to comment@ci.pinole.ca.us** Please indicate which item on the agenda you are commenting on in the subject line of your email.

OTHER WAYS TO WATCH THE MEETING

LIVE ON CHANNEL 26. They are retelecast the following week. The Community TV Channel 26 schedule is published on the city's website at www.ci.pinoles.ca.us.

VIDEO-STREAMED LIVE ON THE CITY'S WEBSITE, www.ci.pinoles.ca.us and remain archived on the site for five (5) years.

If none of these options are available to you, or you need assistance with public comment, please contact the City Clerk, Heather Bell at (510) 724-8928 or hbell@ci.pinoles.ca.us.

Americans With Disabilities Act: In compliance with the Americans With Disabilities Act of 1990, if you need special assistance to participate in a City Meeting or you need a copy of the agenda, or the agenda packet in an appropriate alternative format, please contact the City Clerk's Office at (510) 724-8928. Notification at least 48 hours prior to the meeting or time when services are needed will assist the City staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.

Note: Staff reports are available for inspection on the City Website at www.ci.pinoles.ca.us. You may also contact the City Clerk via e-mail at hbell@ci.pinoles.ca.us.

Ralph M. Brown Act. Gov. Code § 54950. In enacting this chapter, the Legislature finds and declares that the public commissions, boards and councils and the other public agencies in this State exist to aid in the conduct of the people's business. It is the intent of the law that their actions be taken openly and that their deliberations be conducted openly. The people of this State do not yield their sovereignty to the agencies, which serve them. The people, in delegating authority, do not give their public servants the right to decide what is good for the people to know and what is not good for them to know. The people insist on remaining informed so that they may retain control over the instruments they have created.

1. CALL TO ORDER & PLEDGE OF ALLEGIANCE IN HONOR OF THE US MILITARY TROOPS

2. LAND ACKNOWLEDGMENT

Before we begin, we would like to acknowledge the Ohlone people, who are the traditional custodians of this land. We pay our respects to the Ohlone elders, past, present, and future, who call this place, Ohlone Land, the land that Pinole sits upon, their home. We are proud to continue their tradition of coming together and growing as a community. We thank the Ohlone community for their stewardship and support, and we look forward to strengthening our ties as we continue our relationship of mutual respect and understanding.

3. ROLL CALL, CITY CLERK'S REPORT & STATEMENT OF CONFLICT

An official who has a conflict must, prior to consideration of the decision: (1) publicly identify in detail the financial interest that causes the conflict; (2) recuse himself /herself from discussing and voting on the matter; and (3) leave the room until after the decision has been made, Cal. Gov't Code § 87105.

4. CONVENE TO A CLOSED SESSION

Citizens may address the Council regarding a Closed Session item prior to the Council adjourning into the Closed Session, by first providing a speaker card to the City Clerk.

A. CONFERENCE WITH LABOR NEGOTIATORS

Gov. Code § 54957.6

Agency designated representatives: City Attorney Eric Casher

Unrepresented employee: Interim City Manager

B. PUBLIC EMPLOYEE PERFORMANCE EVALUATION

Gov. Code § 54957

Title: Interim City Manager

5. RECONVENE IN OPEN SESSION TO ANNOUNCE RESULTS OF CLOSED SESSION

6. CITIZENS TO BE HEARD (Public Comments)

Citizens may speak under any item not listed on the Agenda. The time limit is 3 minutes and is subject to modification by the Mayor. Individuals may not share or offer time to another speaker. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The City Council may direct staff to investigate and/or schedule certain matters for consideration at a future Council meeting. PLEASE SEE THE COVERSHEET OF THE AGENDA FOR INSTRUCTIONS ON HOW TO SUBMIT PUBLIC COMMENTS

7. REPORTS & COMMUNICATIONS

A. Mayor Report

1. Announcements

B. Mayoral & Council Appointments

C. City Council Committee Reports & Communications

D. Council Requests for Future Agenda Items

E. City Manager Report / Department Staff

F. City Attorney Report

8. RECOGNITIONS / PRESENTATIONS / COMMUNITY EVENTS

A. Proclamations

1. Recognizing City Council Interns Phoebe Deza and Ileana Miranda

B. Presentations

1. Sales Tax Ballot Measure Update
2. City Council Intern Program

9. CONSENT CALENDAR

All matters under the Consent Calendar are considered to be routine and noncontroversial. These items will be enacted by one motion and without discussion. If, however, any interested party or Council member(s) wishes to comment on an item, they may do so before action is taken on the Consent Calendar. Following comments, if a Council member wishes to discuss an item, it will be removed from the Consent Calendar and taken up in order after adoption of the Consent Calendar.

- A. Approve the Minutes of the Regular City Council Meeting on August 6, 2024.
- B. Receive the August 3, 2024 – August 16, 2024– List of Warrants in the Amount of \$745,406.52 and the August 16, 2024 Payroll in the amount of \$520,218.81.
- C. Letter of Concern Regarding Proposed Scotts Valley Mega Casino and Tribal Housing Project in Solano County **Action: Consider Approval of Letter per Staff Recommendation (Heather Bell)**
- D. Issue Letter of Support for the City of Pinole and Richmond Community Foundation's Application to the Partnership for the Bay's Future Policy Fund Grant (Cohort 3) **Action: Approve Letter of Support per Staff Recommendation (Lilly Whalen)**

10. PUBLIC HEARINGS

Citizens wishing to speak regarding a Public Hearing item should fill out a speaker card prior to the completion of the presentation, by first providing a speaker card to the City Clerk. **An official who engaged in an ex parte communication that is the subject of a Public Hearing must disclose the communication on the record prior to the start of the Public Hearing.**

- A. Extension of Entitlements for Pinole Vista Project 223-units 1500 Fitzgerald, ROIC Development **Action: Conduct a Public Hearing and Adopt Resolution per Staff Recommendation (David Hanham)**

11. OLD BUSINESS

- A. Approve Resolutions Adopting an Initial Study-Negative Declaration (IS-ND) for the CAAP and Adopting Pinole's inaugural Climate Action and Adaptation Plan (CAAP) **Action: Adopt Resolutions per Staff Recommendation (Kapil Amin, Lilly Whalen)**

12. NEW BUSINESS

- A. Receive a report on Energy Conservation, Generation and Storage Assessment (CIP

PROJECT # IN2201) **Action: Adopt Resolution per Staff Recommendation (Sanjay Mishra)**

- B. Receive a report on Municipal Broadband Feasibility Study Report (CIP# IN2102) **Action: Receive Report and Provide Direction (Sanjay Mishra)**

13. CITIZENS TO BE HEARD (Continued from Item 6) (Public Comments)

Open only to members of the public who did not speak under the first Citizens to Be Heard, Agenda Item 6 **Citizens may speak under any item not listed on the Agenda.** The time limit is 3 minutes for City Council items and is subject to modification by the Mayor. Individuals may not share or offer time to another speaker. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The City Council may direct staff to investigate and/or schedule certain matters for consideration at a future meeting.

14. ADJOURNMENT to the Regular City Council Meeting of September 3, 2024 in Remembrance of Amber Swartz.

I hereby certify under the laws of the State of California that the foregoing Agenda was posted on the bulletin board at the main entrance of Pinole City Hall, 2131 Pear Street Pinole, CA, and on the City's website, not less than 72 hours prior to the meeting date set forth on this agenda.

Heather Bell, CMC
City Clerk

POSTED: Thursday, August 15, 2024 at 4:00 pm

***Revised to Include Teleconference Location for Councilmember Murphy: Reposted on Friday, August 16 at 2:30 p.m**

**CITY COUNCIL MEETING
MINUTES
August 6, 2024**

1. CALL TO ORDER & PLEDGE OF ALLEGIANCE IN HONOR OF THE US MILITARY TROOPS

The City Council Meeting was held in a hybrid format (in-person and via Zoom videoconference and broadcast) from the Pinole Council Chambers, 2131 Pear Street, Pinole, California. Mayor Toms called the Regular Meeting of the City Council to order at 5:00 p.m. and led the Pledge of Allegiance.

2. LAND ACKNOWLEDGEMENT

Before we begin, we would like to acknowledge the Ohlone people, who are the traditional custodians of this land. We pay our respects to the Ohlone elders, past, present and future, who call this place, Ohlone Land, the land that Pinole sits upon, their home. We are proud to continue their tradition of coming together and growing as a community. We thank the Ohlone community for their stewardship and support, and we look forward to strengthening our ties as we continue our relationship of mutual respect and understanding.

3. ROLL CALL, CITY CLERK'S REPORT & STATEMENT OF CONFLICT

An official who has a conflict must, prior to consideration of the decision; (1) publicly identify in detail the financial interest that causes the conflict; (2) recuse himself/herself from discussing and voting on the matter; and (3) leave the room until after the decision has been made, Cal. Gov. Code § 87105.

A. COUNCILMEMBERS PRESENT

Maureen Toms, Mayor
Cameron Sasai, Mayor Pro Tem
Norma Martinez-Rubin, Council Member
Anthony Tave, Council Member

COUNCILMEMBERS ABSENT

Devin Murphy, Council Member

B. STAFF PRESENT

Neil Gang, Interim City Manager/Chief of Police
Heather Bell, City Clerk
Eric Casher, City Attorney

City Clerk Heather Bell announced the agenda had been posted on August 1, 2024, at 12:30 p.m. with all legally required written notices. Written comments had been received in advance of the meeting, distributed to the City Council and staff, posted to the City website and made available to the public in the Council Chambers.

Following an inquiry, the Council reported there were no conflicts with any items on the agenda.

4. CONVENE TO A CLOSED SESSION:

Citizens may address the Council regarding a Closed Session item prior to the Council adjourning into the Closed Session, by first providing a speaker card to the City Clerk.

**A. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Gov. Code §54956.9(d)(4)
In re National Prescription Opiate Litigation, No. 1:17-MD-2804**

PUBLIC COMMENTS OPENED

City Clerk Bell reported there were no comments from the public.

PUBLIC COMMENTS CLOSED

5. RECONVENE IN OPEN SESSION TO ANNOUNCE RESULTS OF CLOSED SESSION

At 5:47 p.m., Mayor Toms reconvened the meeting into open session. There was no reportable action from the Closed Session.

6. CITIZENS TO BE HEARD (Public Comments)

Citizens may speak under any item not listed on the Agenda. The time limit is 3 minutes and is subject to modification by the Mayor. Individuals may not share or offer time to another speaker. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The City Council may direct staff to investigate and/or schedule certain matters for consideration at a future Council meeting.

City Clerk Bell reported there were no Citizens to be Heard.

7. REPORTS & COMMUNICATIONS

A. Mayor Report

1. Announcements:

Mayor Toms reported the City of Pinole hosted the West County Mayors' and Supervisors' meeting and would host the group for the next six months. During the meeting, the City of San Pablo expressed concern with a mega-casino proposal in the City of Vallejo and the group discussed the East Bay Hills Wildfire Coalition's need for a fiscal agent, and the City of Pinole was asked to take on the task, which would be considered when the new City Manager came on board. She had also attended the Association of Bay Area Governments (ABAG) Executive Board meeting with the members of the General Assembly having been thanked for convening on June 21, 2024. It was also reported in late June/early July that the San Francisco Estuary Partnership received two awards from the Environmental Protection Agency (EPA) totaling \$10.6 million to implement watershed scale restoration in North Richmond and advance nature-based adaptation along the Hayward Shoreline.

A report was also provided on a \$20 billion Bay Area Affordable Housing Bond which had been approved for the 2024 election for affordable housing throughout the nine county Bay Area, and an update on the Metropolitan Transportation Commission (MTC) proposal Plan Bay Area 2050+, an update to Plan Bay Area 2050. In addition, Mayor Toms reported she met with the new Principal of Pinole Valley High School who had been invited to a future City Council meeting to introduce himself.

- B. Mayoral & Council Appointments: None
- C. City Council Committee Reports & Communications: None
- D. Council Requests for Future Agenda Items

Mayor Toms offered a motion to send a letter to the Bureau of Indian Affairs by August 22, 2024, to extend the City of San Pablo's concerns about a mega-casino project proposed by the City of Vallejo, as a future agenda item.

On the motion and in response to Council member Martinez-Rubin, Mayor Toms explained the City Council would next meet on August 20, 2024, there was time to consider the item and there was a standard letter that could be considered at the next City Council meeting.

Consensus given.

PUBLIC COMMENTS OPENED

Irma Ruport referenced an article about the new Executive Director for Contra Costa County Animal Services. She asked that the City Council extend an invitation to the Executive Director to provide an update to the City Council and the public on the City's contract with the County given issues with the lack of animal services in West County.

Consensus given.

PUBLIC COMMENTS CLOSED

- E. City Manager Report / Department Staff

Interim City Manager Neil Gang reported the National Night Out Caravan for the Pinole Police Department would go to three different locations in the City to celebrate the event with a caravan planned on August 6, 2024. A Citywide National Night Out had been planned for October 1, 2024. He also reported the new City website was operational at pinole.gov and he expressed his appreciation to Assistant to the City Manager Fiona Epps and her team for their hard work. The City's new Online Permitting, Inspection and Licensing System was also now live online and new City Manager Kelcey Young would start on August 26, 2024.

In addition, the Police Chief recruitment process was ongoing with a total of 14 applications received, seven of which involved current or former Police Chiefs. Six external candidates had been selected to move forward to interviews scheduled for August 26, 2024.

Interviews would include three panels; a Community Panel, City Department Head Panel and Police Chiefs from around the state. Once finalists had been identified the City Manager would hold interviews on-site on September 5, 2024.

Public Works Director Sanjay Mishra provided an update on Public Works Operations and Activities for the month of July. There had been a total of 173 service requests; 33 for facilities, 88 for parks and 26 for roads, with one emergency call-out. The details for the service requests were highlighted. Public Works Department staff also provided assistance at various special events during the month including stormwater cleaning events for inlets. He also reported that the Public Works Department was struggling with staffing, with about 60 percent of staff currently out sick.

Mayor Toms thanked the Public Works Director for the repair work on Doidge Avenue and reported there were many grateful residents.

F. City Attorney Report: None

PUBLIC COMMENTS OPENED (Items 7D through 7F)

Irma Ruport asked the Interim City Manager/Police Chief why he was recruiting and hiring for the new Police Chief position and asked who would do the direct hiring of the new Police Chief.

Interim City Manager/Police Chief Gang reported the City Manager was the hiring authority for the Police Chief, and the new City Manager would do the hiring for the new Police Chief when she arrived.

Ms. Ruport commented the City had an Interim City Manager/Police Chief for the past six months. She found it inappropriate for the Interim City Manager/Police Chief and the new City Manager to be the only ones hiring the new Police Chief. She objected to the process, questioned having someone new on staff who was not familiar with Pinole doing the hiring and asked the City Attorney to opine. She pointed out the City Council was elected to represent the City and had the knowledge of the City. As a long-time resident and given there had been bad practices in hiring in the past, she asked that people be vetted properly.

Mayor Toms reported a panel had reviewed applicants and there were six finalists to be interviewed by three different panels as earlier described who would provide the recommendation to the new City Manager who would interview and make that hire. The City Council directly hired the City Manager, City Attorney and City Clerk. The rest of the Department Heads were hired by the City Manager.

PUBLIC COMMENTS CLOSED

9. CONSENT CALENDAR

All matters under the Consent Calendar are considered to be routine and noncontroversial. These items will be enacted by one motion and without discussion. If, however, any interested party or Council member(s) wishes to comment on an item, they may do so before action is taken on the Consent Calendar. Following comments, if a Council member wishes to discuss an item, it will be removed from the Consent Calendar and taken up in order after adoption of the Consent Calendar.

- A. Approve the Minutes of the Regular City Council Meeting on July 16, 2024.
- B. Receive the July 13, 2024 – August 2, 2024 List of Warrants in the Amount of \$3,399,653.34, the July 19, 2024 Payroll in the Amount of \$536,674.41, and the August 2, 2024 Payroll in the Amount of \$523,367.72.
- C. Overview of Current Notification Process for Ministerial and Discretionary Projects.
Action: Receive Report per Staff Recommendation (David Hanham)
- D. Award a Contract for Architectural Services for FA1702-Citywide Roof Repairs and Replacement and FA1703-City Hall Modernization Projects to Interactive Resources, Inc. in an Amount Not to Exceed \$270,555. **Action: Adopt Resolution per Staff Recommendation (Sanjay Mishra)**
- E. Adopt Final Sewer Rate Study and Authorize Sewer Rate for Tax Roll. **Action: Adopt Resolution per Staff Recommendation (Sanjay Mishra)**

Mayor Pro Tem Sasai asked that Item 9D be removed for a separate vote.

City Clerk Bell requested a revision to Item 9A, Page 35 of 128 of the agenda packet, and the first sentence of the comments made by Rafael Menis, as follows:

Rafael Menis supported the proposed half cent sales tax measure, the City needed the revenue it would raise, the protections state law required limited it from being applied to regressive categories, such as food and medicine, making it a less regressive tax and given the relative popularity of the tax as compared to others based on the City's survey data, made it the best choice for the City at this time.

Council member Martinez-Rubin requested Item 9C be removed for discussion.

PUBLIC COMMENTS OPENED

City Clerk Bell reported there were no comments from the public.

PUBLIC COMMENTS CLOSED

ACTION: Motion by Council member Tave/Mayor Pro Tem Sasai to adopt Items 9A, as amended and Items 9B and 9E, as shown.

Vote:	Passed	4-0-1
	Ayes:	Toms, Sasai, Martinez-Rubin, Tave
	Noes:	None
	Abstain:	None
	Absent:	Murphy

Speaking to Item 9C, Council member Martinez-Rubin thanked Planning Manager David Hanham and the Planning Department for the information she had requested as part of Item 9C, which helped to explain the process staff, the Planning Commission and the public went through from the submittal of an application to the development of a project.

Council member Martinez-Rubin urged residents to read the report to understand the different distinctions about projects and what was permitted by law and she highlighted some of the existing regulations.

ACTION: Motion by Council members Martinez-Rubin/Tave to adopt Item 9C, as shown.

Vote:	Passed	4-0-1
	Ayes:	Toms, Sasai, Martinez-Rubin, Tave
	Noes:	None
	Abstain:	None
	Absent:	Murphy

Referring to Item 9D, Council member Tave explained he removed the item to ask that it be tabled to allow the new City Manager to review the Capital Improvement Plan (CIP) in its entirety and the costs related to Item 9D. He had spoken with the Public Works Director about tabling the item and the potential impacts on projects moving forward. He asked the Public Works Director to opine on tabling the item.

Public Works Director Mishra detailed the architectural services contract the City had procured through the Request for Proposal (RFP) process as part of Item 9D. If the City Council decided to hold off on the item for a couple of weeks he did not see that as a concern.

Council member Tave emphasized he would like to see the item be tabled, as discussed.

Mayor Toms asked the Public Works Director how long the quote for the scope of work for Item 9D would be valid.

Public Works Director Mishra advised the quote was valid for 120-days from the time of the bid.

PUBLIC COMMENTS OPENED

Rafael Menis referenced Page 92 of 128 of the agenda packet and the details for the construction cost estimate, which read in part: *The current estimates appear to cover only 70-80% of the market cost for the roof areas the City wants to replace.* He asked whether there were sufficient funds set aside for the full project cost not just the construction costs.

Irma Ruport asked that Item 9D be continued to a future meeting given that the review and analysis in the report was incomplete. A total of six proposals had been received in response to the RFP on May 21, 2024, and had been evaluated with three proposals shortlisted. The top ranked proposal involved an interview by City staff based on the scope of the RFP. The proposal from Interactive Resources, Inc. was in the amount of \$270,555. She asked why all three candidate proposals had not been interviewed, why all three had not been listed in the resolution as done with prior resolutions, who on staff had interviewed the consultant and whether staff had done enough follow-up and background history with the consultant. Based on her own research, she had learned on June 19, 2018 that the City executed a contract with Interactive Resources, Inc. for \$100,000 to design improvements required for the Faria House to serve as a public museum and had consulted with staff and representatives from the Pinole History Museum to create the building programs with an estimate for construction costs in January 2020 at \$1.4 million.

Ms. Ruport noted the contract for the project had been approved by the five Council members at the time and no RFP had been distributed, and there had been only four informal emails involved when one consultant had been chosen, Interactive Resources Inc. In that case, the City paid the cost but the project had been shelved since the City did not have any money. She expressed concern the current RFP process had repeated itself with the same past procedures and had not followed the RFP rules. She asked that Item 9D be continued until the new City Manager was on board, the item was not time sensitive and the City needed to do better following the rules and guidelines to ensure all information was given to the public who would be paying for the project.

Ms. Ruport was concerned the City was repeating bad hiring practices by hiring former bad consultants with no accounting or records. She added every time she requested records the City did not have them. She stated she would be making a Public Records Act (PRA) request in this instance.

PUBLIC COMMENTS CLOSED

ACTION: Motion by Council members Tave/Mayor Toms to continue Item 9D until the new City Manager had the chance to review.

Vote:	Passed	3-0-2
	Ayes:	Toms, Martinez-Rubin, Tave
	Noes:	None
	Abstain:	Sasai
	Absent:	Murphy

10. PUBLIC HEARINGS

- A.** Conduct Public Hearing and Adopt a Resolution Confirming the Assessments and Ordering the Levy for the Pinole Valley Road Landscape and Lighting Assessment District (LLAD) for Fiscal Year 2024/2025. **Action: Conduct Public Hearing and Adopt Resolution per Staff Recommendation (Sanjay Mishra)**

Public Works Director Mishra provided a brief PowerPoint presentation on the Pinole Valley Road Landscape and Lighting Assessment District public hearing process and highlighted the Assessment Report for Fiscal Year 2024/25, which included a correction to the Total Assessable Costs for Zones A and B.

Public Works Director Mishra recommended the City Council adopt a resolution confirming the assessment and diagram as described in the Annual Assessment Report, levying an assessment for the fiscal year commencing July 1, 2024, and ending June 30, 2025, and ordering the City Engineer to prepare and submit the assessments to the Contra Costa County Assessor's Office for placement onto the Fiscal Year 2024/2025 secured property tax roll.

Council member Martinez-Rubin asked about the reference to maintenance of "one and a half traffic signals" on Pinole Valley Road, to which Public Works Director Mishra explained that a portion of the cost had been assigned to Zone A and the other to Zone B, and was not a separation of one and a half traffic signals.

PUBLIC HEARING OPENED

City Clerk Bell reported there were no comments from the public.

PUBLIC HEARING CLOSED

ACTION: Motion by Council members Tave/Martinez-Rubin to adopt a resolution confirming the assessment and diagram as is described in the Annual Assessment Report, levying an assessment for the fiscal year commencing July 1, 2024, and ending June 30, 2025, and ordering the City Engineer to prepare and submit the assessments to the Contra Costa County Assessor's Office for placement onto the Fiscal Year 2024/2025 secured property tax roll.

Vote:	Passed	4-0-1
	Ayes:	Toms, Sasai, Martinez-Rubin, Tave
	Noes:	None
	Abstain:	None
	Absent:	Murphy

12. NEW BUSINESS: None

13. CITIZENS TO BE HEARD (Continued from Item 6) (Public Comments)

Only open to members of the public who did not speak under the first Citizens to be Heard, Agenda Item 6.

Citizens may speak under any item not listed on the Agenda. *The time limit is 3 minutes and is subject to modification by the Mayor. Individuals may not share or offer time to another speaker. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The City Council may direct staff to investigate and/or schedule certain matters for consideration at a future Council meeting.*

Rafael Menis reported on the COVID-19 rate in the community, local sewer water sheds and hospitalization rates with an overall rate of 17 per 100,000 in terms of viral activity levels. He continued to encourage people to wear masks in high risk crowded indoor areas, take precautions as necessary and get booster shots. He also wished Council member Murphy a Happy Birthday and praised his work on the City Council over the last few years including having played a significant role in reopening Fire Station 74, ensuring the City had gone through many of the core strategic planning processes, working to ensure the City had a proper economic development process and ensure there was greater public communication, outreach and community engagement through various tools. He thanked Council member Murphy for his work to engage the community and his continued work on the City Council.

Anthony Vossbrink reported the presentation provided by the Public Works Director for Item 10A was not clearly audible and the text not clearly visible and he asked that those issues be corrected for future presentations. He otherwise noted there remained a number of street light issues in the community including street light outages along Pinole Valley Road, San Pablo Avenue and a third of the public parking lot lights were inoperable creating a safety hazard. He asked that the different parking lots in the City be reviewed prior to waiting for the new City Manager to come on board. Also, two large directional lights on the I-80 overpass were inoperable and green recyclable trash cans in the barbeque grove and dog park remained to be installed.

Mayor Toms asked that the meeting adjourn in memory of Scott Davidson, a former Contract Planner for the City of Pinole.

14. **ADJOURNMENT** to the Regular Meeting of August 20, 2024 in Remembrance of Amber Swartz and Scott Davidson.

At 6:32 p.m., Mayor Toms adjourned the meeting to the Regular City Council Meeting of August 20, 2024 in Remembrance of Amber Swartz and Scott Davidson.

Submitted by:

Heather Bell, CMC
City Clerk

Approved by City Council:



City of Pinole, CA

9B WARRANT LISTING By Vendor Name

Payment Dates 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: 2868 - ALL BAY REFRIGERATION					
1126	105419	08/16/2024	209-552-42107	WALK IN COOLER REPAIR- SENIOR CENTER	850.00
Vendor 2868 - ALL BAY REFRIGERATION Total:					850.00
Vendor: 2063 - ALLIANT INSURANCE SERVICES, INC.					
2722289	105420	08/16/2024	100-116-42101	AUGUST 2024 CONSULTING FEE-HR	2,083.33
Vendor 2063 - ALLIANT INSURANCE SERVICES, INC. Total:					2,083.33
Vendor: AME41 - AMERICAN LEGAL PUBLISHING					
35547	105421	08/16/2024	100-112-42101	JULY 2024 EDITING- CITY CLERK	124.15
35659	105399	08/09/2024	100-112-42101	JULY 2024 ONLINE CODE EDITING- CITY CLERK	10.78
Vendor AME41 - AMERICAN LEGAL PUBLISHING Total:					134.93
Vendor: AME47 - AMERINATIONAL COMMUNITY SERVICES, INC.					
24-4713	105422	08/16/2024	285-464-42101	ANNUAL SERVICING FEE- FY25	6,210.00
24-4713	105422	08/16/2024	750-463-42101	ANNUAL SERVICING FEE- FY25	2,790.00
Vendor AME47 - AMERINATIONAL COMMUNITY SERVICES, INC. Total:					9,000.00
Vendor: 2005 - ANIMAL DAMAGE MANAGEMENT, INC					
8269C	105423	08/16/2024	100-345-42108	PEST CONTROL- PARKS	250.00
Vendor 2005 - ANIMAL DAMAGE MANAGEMENT, INC Total:					250.00
Vendor: ARM04 - ARMOR LOCKSMITH SERVICES					
86816	105424	08/16/2024	100-343-44306	KEYS AND ACCESSORIES- GEN MAINT	20.97
Vendor ARM04 - ARMOR LOCKSMITH SERVICES Total:					20.97
Vendor: ABA01 - ASSOCIATION OF BAY AREA GOVERNMENTS					
AR035933	105400	08/09/2024	100-110-42401	FY24/25 ABAG MEMBERSHIP DUES	6,781.00
Vendor ABA01 - ASSOCIATION OF BAY AREA GOVERNMENTS Total:					6,781.00
Vendor: 1144 - AXON ENTERPRISE, INC.					
INUS269243	105401	08/09/2024	203-221-47101	AXON CAMERA PRO LICENSE BUNDLE-PD	9,339.48
UNUS269414	105401	08/09/2024	203-221-47101	AXON EVIDENCE ECOM LICENSE PRO-PD	40,955.64
Vendor 1144 - AXON ENTERPRISE, INC. Total:					50,295.12
Vendor: BAR40 - BARRY EVANS STUDIO					
9926	105402	08/09/2024	100-110-42201	PHOTO SESSION AND FRAMES- COUNCIL	395.71
Vendor BAR40 - BARRY EVANS STUDIO Total:					395.71
Vendor: BAY34 - BAY AREA NEWS GROUP- EAST BAY					
0001419059	105403	08/09/2024	100-112-42514	ORDINANCE/HEARING ADVERTISING	531.56
Vendor BAY34 - BAY AREA NEWS GROUP- EAST BAY Total:					531.56
Vendor: BIR05 - BIRITE FOODSERVICE DISTRIBUTORS					
6810922	105425	08/16/2024	209-552-43804	FOOD PROGRAM DELIVERY- SENIOR CENTER	1,326.04
6810923	105425	08/16/2024	209-552-42108	FOOD PROGRAM DELIVERY- SENIOR CENTER	212.50
6820862	105425	08/16/2024	209-552-43804	FOOD PROGRAM DELIVERY- PSC	1,237.04
Vendor BIR05 - BIRITE FOODSERVICE DISTRIBUTORS Total:					2,775.58

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: 1654 - BRINK'S INCORPORATED					
12682122	105426	08/16/2024	100-115-42101	AUGUST CURRIER SERVICES-FINANCE	287.14
6771822	105426	08/16/2024	100-115-42101	JULY CURRIER EXCESS TIME-FINANCE	5.29
Vendor 1654 - BRINK'S INCORPORATED Total:					292.43
Vendor: CAL04 - CALCON SYSTEMS, INC.					
57218	105427	08/16/2024	500-641-42107	SERVICE CALL FOR REPAIRS-WWTP	4,185.50
Vendor CAL04 - CALCON SYSTEMS, INC. Total:					4,185.50
Vendor: PER03 - CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTM					
100000017625419	105428	08/16/2024	100-117-41004	AUGUST MISC PEPRA UAL	858.58
100000017625488	105428	08/16/2024	100-117-41004	AUGUST MISCELLANEOUS CLASSIC UAL	133,129.58
100000017625497	105428	08/16/2024	100-117-41004	AUGUST SAFETY CLASSIC UAL	172,035.42
100000017625502	105428	08/16/2024	100-231-41004	AUGUST PEPRA FIRE UAL	299.33
100000017625511	105428	08/16/2024	100-117-41004	AUGUST SAFETY PD PEPRA UAL	1,165.08
Vendor PER03 - CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTM Total:					307,487.99
Vendor: 2060 - CENTRAL CONCRETE SUPPLY CO., INC.					
2407-115609	105429	08/16/2024	100-343-42108	CRUSHED DRAIN ROCK- GEN MAINT	442.29
2407-116735	105429	08/16/2024	100-345-42108	TOP SOIL- PARKS	142.86
Vendor 2060 - CENTRAL CONCRETE SUPPLY CO., INC. Total:					585.15
Vendor: 2874 - CHEREMAY SUTTON					
INV0010121	105430	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 2874 - CHEREMAY SUTTON Total:					159.00
Vendor: CIT08 - CITY MECHANICAL, INC					
105674	105431	08/16/2024	209-554-42108	AC UNIT TROUBLESHOOT-YOUTH CENTER	519.01
105691	105431	08/16/2024	100-222-42108	BI-MONTHLY HVAC SERVICE-PUBLIC SAFETY	1,103.84
Vendor CIT08 - CITY MECHANICAL, INC Total:					1,622.85
Vendor: COM20 - COMCAST					
0413784-07182024	105432	08/16/2024	525-118-43106	INTERNET FOR TINY TOTS	160.18
Vendor COM20 - COMCAST Total:					160.18
Vendor: 2767 - CRAIG WHITTON CONSULTING					
00068	105433	08/16/2024	100-341-42101	JULY 2024 PROJECT MANAGEMENT- PW	262.50
Vendor 2767 - CRAIG WHITTON CONSULTING Total:					262.50
Vendor: 2220 - CRESCO EQUIPMENT RENTALS					
5981038-0012	105434	08/16/2024	100-231-42512	BRUSH CHIPPER RENTAL- FD	3,658.50
Vendor 2220 - CRESCO EQUIPMENT RENTALS Total:					3,658.50
Vendor: 1278 - CRISTINA AHLSTRAND					
INV0010110	105414	08/09/2024	209-554-42515	SUPPLIES FOR COOKING CAMP-YOUTH CENTER	42.04
INV0010111	105414	08/09/2024	209-554-42515	SUPPLIES FOR COOKING CAMP AND GAMES- YOUTH CENTER	88.86
INV0010112	105414	08/09/2024	209-554-42515	SUPPLIES FOR COOKING SUMMER CAMP- YOUTH CENTER	17.83
Vendor 1278 - CRISTINA AHLSTRAND Total:					148.73
Vendor: 2080 - CSW-STUBER-STROEH ENGINEERING GROUP INC					
2407133	105435	08/16/2024	106-343-42101	IN2102 BROADBAND OPPORTUNITIES ASSESSMENT	2,590.00
Vendor 2080 - CSW-STUBER-STROEH ENGINEERING GROUP INC Total:					2,590.00
Vendor: DEP01 - DEPARTMENT OF JUSTICE/ACCOUNTING OFFICE					
745557	105436	08/16/2024	100-116-42101	FINGERPRINT SERVICES	160.00

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
745557	105436	08/16/2024	100-221-42101	FINGERPRINT SERVICES	32.00
745557	105436	08/16/2024	100-221-42110	FINGERPRINT SERVICES	49.00
Vendor DEP01 - DEPARTMENT OF JUSTICE/ACCOUNTING OFFICE Total:					241.00
Vendor: 1443 - DIESEL DIRECT WEST, INC.					
85950201	105437	08/16/2024	100-10601	GASOLINE- CORP YARD	2,160.09
85967795	105437	08/16/2024	100-10601	GASOLINE- CORP YARD	2,589.38
85969975	105437	08/16/2024	500-10601	DIESEL- WWTP	4,213.08
Vendor 1443 - DIESEL DIRECT WEST, INC. Total:					8,962.55
Vendor: DOL01 - DOLAN'S LUMBER					
JULY 2024	105438	08/16/2024	500-641-44306	SAW BLADE- WWTP	38.52
Vendor DOL01 - DOLAN'S LUMBER Total:					38.52
Vendor: 1655 - ENDRESS + HAUSER, INC.					
6002592490	105439	08/16/2024	500-641-44306	LAB SUPPLIES- WWTP	145.33
6002593285	105439	08/16/2024	500-641-44306	WATERPILOT- WWTP	3,229.89
6002595142	105439	08/16/2024	500-641-44306	MAINTENANCE SET- WWTP	1,849.25
Vendor 1655 - ENDRESS + HAUSER, INC. Total:					5,224.47
Vendor: 1906 - EVELYN LINTEO					
INV0010118	105440	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 1906 - EVELYN LINTEO Total:					159.00
Vendor: 2853 - EVERON, LLC					
155606803	105415	08/09/2024	209-552-42108	ALARM MONITORING- SENIOR CENTER	152.00
Vendor 2853 - EVERON, LLC Total:					152.00
Vendor: 1612 - FIRST VANGUARD RENTALS & SALES					
1-510888	105441	08/16/2024	100-345-42108	LIGHT TOWER RENTAL- PARKS	813.75
Vendor 1612 - FIRST VANGUARD RENTALS & SALES Total:					813.75
Vendor: FIS01 - FISHER SCIENTIFIC					
4013345	105442	08/16/2024	500-641-44305	IODINE- WWTP	239.97
4088502	105442	08/16/2024	500-641-44305	ACETATE-WWTP	225.74
4088503	105442	08/16/2024	500-641-44303	IODINE-WWTP	81.14
Vendor FIS01 - FISHER SCIENTIFIC Total:					546.85
Vendor: 2876 - GENASYS INC.					
004398	105443	08/16/2024	100-222-42106	GP CONNECT SUBSCRIPTION- PD	2,456.40
Vendor 2876 - GENASYS INC. Total:					2,456.40
Vendor: GLO08 - GLOBALSTAR					
000000073919306	105444	08/16/2024	525-118-43101	TELECOMMUNICATION SERVICE-IT	133.66
Vendor GLO08 - GLOBALSTAR Total:					133.66
Vendor: 2371 - GREEN HALO SYSTEMS INC					
5040	105445	08/16/2024	212-462-42106	JULY 2024 HOST & ACCESS- BUILDING	175.00
5103	105445	08/16/2024	212-462-42106	AUGUST 2024 HOST AND ACCESS- BLDG	175.00
Vendor 2371 - GREEN HALO SYSTEMS INC Total:					350.00
Vendor: 2820 - GVP VENTURES, INC.					
10726	105446	08/16/2024	100-116-42101	EXECUTIVE SEARCH -CITY MANAGER	2,873.17
Vendor 2820 - GVP VENTURES, INC. Total:					2,873.17
Vendor: HAC01 - HACH COMPANY					
14119579	105447	08/16/2024	500-641-44305	CHEMICALS FOR WWTP	508.24
14123106	105447	08/16/2024	500-641-44306	NITROGEN, AMMONIA- WWTP	300.14
14131596	105447	08/16/2024	500-641-42109	AWRS BASE UNIT-WWTP	5,813.46
Vendor HAC01 - HACH COMPANY Total:					6,621.84

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: HOM01 - HOME DEPOT CREDIT SERVICE					
JULY 2024 FY24	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	73.58
JULY 2024 FY24	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	98.16
JULY 2024 FY24	105448	08/16/2024	500-642-44306	MAINTENANCE SUPPLIES-CITYWIDE	13.55
JULY 2024 FY24	105448	08/16/2024	500-642-44306	MAINTENANCE SUPPLIES-CITYWIDE	358.45
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	12.76
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	276.18
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	49.00
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	63.32
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	80.19
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	108.16
JULY 2024 FY25	105448	08/16/2024	100-343-44306	MAINTENANCE SUPPLIES-CITYWIDE	178.91
JULY 2024 FY25	105448	08/16/2024	500-641-44306	MAINTENANCE SUPPLIES-CITYWIDE	45.85
JULY 2024 FY25	105448	08/16/2024	500-641-44306	MAINTENANCE SUPPLIES-CITYWIDE	9.24
JULY 2024 FY25	105448	08/16/2024	500-642-44306	MAINTENANCE SUPPLIES-CITYWIDE	40.85
JULY 2024 FY25	105448	08/16/2024	500-642-44306	MAINTENANCE SUPPLIES-CITYWIDE	108.16
Vendor HOM01 - HOME DEPOT CREDIT SERVICE Total:					1,516.36
Vendor: HOR05 - HORIZON					
1R337261	105449	08/16/2024	100-345-44306	PARK MAINTENANCE SUPPLIES	1,224.83
1R337317	105449	08/16/2024	100-345-44306	PARK MAINTENANCE SUPPLIES	645.40
Vendor HOR05 - HORIZON Total:					1,870.23
Vendor: IED02 - IEDA, INC.					
24668	105450	08/16/2024	100-116-42101	AUGUST 2024 LABOR RELATIONS-HR	2,609.92
Vendor IED02 - IEDA, INC. Total:					2,609.92
Vendor: 2808 - ILEANA THIDA MIRANDA					
INV0010109	105404	08/09/2024	100-110-42514	CITY COUNCIL INTERN HOURS	246.62
Vendor 2808 - ILEANA THIDA MIRANDA Total:					246.62
Vendor: CUL03 - ISING'S CULLIGAN-LIVERMORE					
379X10809502	105451	08/16/2024	500-641-44305	DEIONIZATION SERVICE-WWTP	549.00
379X10935307	105451	08/16/2024	500-641-44305	DEIONIZATION SERVICE...	551.24
Vendor CUL03 - ISING'S CULLIGAN-LIVERMORE Total:					1,100.24
Vendor: COR15 - JACQUELINE L CORL-SEIDEL					
JULY 2024	105416	08/09/2024	209-552-43802	JULY EXERCISE CLASSES-SENIOR CENTER	351.75
Vendor COR15 - JACQUELINE L CORL-SEIDEL Total:					351.75
Vendor: JAN92 - JAN-PRO OF THE GREATER BAY AREA					
24487	105452	08/16/2024	209-554-42108	AUGUST 2024 JANITORIAL SERVICES-YC	483.34
24488	105452	08/16/2024	209-552-42108	AUGUST JANITORIAL SERVICES-SENIOR CENTER	447.27
24489	105452	08/16/2024	209-552-42108	AUGUST JANITORIAL SERVICES-SENIOR CENTER DAY PORTE	2,257.00
24490	105452	08/16/2024	209-552-43810	AUGUST 2024 JANITORIAL SERVICES- SR CTR KITCHEN	429.67

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
24491	105452	08/16/2024	209-553-42108	AUGUST JANITORIAL SERVICES-TINY TOTS	516.23
Vendor JAN92 - JAN-PRO OF THE GREATER BAY AREA Total:					4,133.51
Vendor: JOE02 - JOE FARRELL PAVING & GRAD					
1932	105453	08/16/2024	500-642-42101	SPOT SEWER REPAIR & JOB RESTORATION	8,532.60
Vendor JOE02 - JOE FARRELL PAVING & GRAD Total:					8,532.60
Vendor: KAI02 - KAISER PERMANETE					
1000392547	105454	08/16/2024	100-116-42101	PRE-EMPLOYMENT EXAMS GRANTOR 320903364865	775.00
1000392547	105454	08/16/2024	100-222-42101	PRE-EMPLOYMENT EXAMS GRANTOR 320903364865	119.00
Vendor KAI02 - KAISER PERMANETE Total:					894.00
Vendor: 2850 - KELCEY YOUNG					
INV0010119	105455	08/16/2024	100-116-42101	REIMBURSEMENT FOR RELOCATION EXPENSES- CITY MANAGE	2,301.98
Vendor 2850 - KELCEY YOUNG Total:					2,301.98
Vendor: KEL09 - KELLER CANYON LANDFILL					
4012-000033305	105456	08/16/2024	500-641-44302	SLUDGE REMOVAL- WPCP	6,345.93
Vendor KEL09 - KELLER CANYON LANDFILL Total:					6,345.93
Vendor: KEN09 - KENNEDY AND ASSOCIATES, INC.					
24-054	105457	08/16/2024	100-341-42101	PROFESSIONAL SERVICES THROUGH MAY 2024-PW	58.25
24-055	105457	08/16/2024	100-341-42101	PROFESSIONAL SERVICES THROUGH MAY 2024-PW	932.00
24-066	105457	08/16/2024	100-341-42101	PROFESSIONAL SERVICES THROUGH JUNE 2024-PW	640.75
Vendor KEN09 - KENNEDY AND ASSOCIATES, INC. Total:					1,631.00
Vendor: ODO03 - KIMBERLY YOUNG					
INV0010122	105458	08/16/2024	500-641-42302	REIMBURSEMENT FOR CONFERENCE	1,917.64
INV0010122	105458	08/16/2024	500-641-42303	REIMBURSEMENT FOR CONFERENCE	378.00
Vendor ODO03 - KIMBERLY YOUNG Total:					2,295.64
Vendor: 1147 - MARGARET GELHAUS					
INV0010113	105459	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 1147 - MARGARET GELHAUS Total:					159.00
Vendor: 2875 - MARILYN ARBOGAST					
INV0010120	105460	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 2875 - MARILYN ARBOGAST Total:					159.00
Vendor: MCM05 - MCMASTER-CARR SUPPLY CO.					
30518855	105461	08/16/2024	500-641-44306	MAINTENANCE SUPPLIES-WWTP	61.72
30539808	105461	08/16/2024	500-641-44306	MAINTENANCE SUPPLIES-WWTP	249.82
Vendor MCM05 - MCMASTER-CARR SUPPLY CO. Total:					311.54
Vendor: 1173 - MELANIE NORTON					
INV0010116	105462	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 1173 - MELANIE NORTON Total:					159.00
Vendor: MEY01 - MEYERS NAVE, A PROFESSIONAL CORPORATION					
217666	105405	08/09/2024	100-20011	MPV CONSTRUCTION LLC DISPUTE	23,668.50
217667	105405	08/09/2024	100-20011	GENERAL SERVICES LABOR & EMPLOYMENT	301.00

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
219183	105405	08/09/2024	100-20011	MPV CONSTRUCTION LLC DISPUTE	53,181.81
Vendor MEY01 - MEYERS NAVE, A PROFESSIONAL CORPORATION Total:					77,151.31
Vendor: 2878 - MICHELLE MARTIR-CORTES					
INV0010123	105463	08/16/2024	209-20307	REFUND 6/15/24 PARK DEPOSIT	210.00
Vendor 2878 - MICHELLE MARTIR-CORTES Total:					210.00
Vendor: MYE01 - MYERS STEVENS & TOOHEY CO					
1425421	105464	08/16/2024	100-221-41008	JULY POLICE LTD PLAN	594.00
1425421	105464	08/16/2024	100-223-41008	JULY POLICE LTD PLAN	287.70
1425421	105464	08/16/2024	105-221-41008	JULY POLICE LTD PLAN	59.40
Vendor MYE01 - MYERS STEVENS & TOOHEY CO Total:					941.10
Vendor: OTI01 - OTIS ELEVATOR COMPANY					
100401628714	105465	08/16/2024	209-554-42108	AUGUST ELEVATOR MAINTENANCE- YC	190.51
100401629172	105465	08/16/2024	100-343-42108	AUGUST ELEVATOR MAINTENANCE- CITY HALL	129.22
Vendor OTI01 - OTIS ELEVATOR COMPANY Total:					319.73
Vendor: LON02 - PATRICIA LONG					
JULY 2024	105417	08/09/2024	209-552-43802	JULY CWLD INSTRUCTOR- SENIOR CENTER	215.60
Vendor LON02 - PATRICIA LONG Total:					215.60
Vendor: PGE01 - PG&E					
2222-07242024	105466	08/16/2024	100-345-43103	STREET AND HIGHWAY LIGHTING	49.39
2222-07242024	105466	08/16/2024	200-342-43103	STREET AND HIGHWAY LIGHTING	20,705.28
2222-07242024	105466	08/16/2024	310-347-43103	STREET AND HIGHWAY LIGHTING	280.00
2222-07242024	105466	08/16/2024	310-348-43103	STREET AND HIGHWAY LIGHTING	400.00
Vendor PGE01 - PG&E Total:					21,434.67
Vendor: 2783 - READYFRESH					
04H6708050237	105467	08/16/2024	100-111-42201	DRINKING WATER DELIVERY- PD & CITY HALL	77.47
Vendor 2783 - READYFRESH Total:					77.47
Vendor: 2817 - REDWOOD PUBLIC LAW, LLP					
10030CR	105406	08/09/2024	100-20011	CREDIT FOR DUPL PMT INV 10030 CITY ATTORNEY SVCS	-9,443.67
10031CR	105406	08/09/2024	100-20011	CREDIT FOR DUPL PMT INV 10031 CITY COUNCIL MEETING	-1,566.00
10037CR	105406	08/09/2024	100-20011	CREDIT FOR DUPL PMT INV 10037 GENERAL SERVICES POL	-1,430.50
10458	105468	08/16/2024	100-20011	GENERAL SERVICES LABOR & EMPLOYMENT	3,454.00
10620	105406	08/09/2024	100-20011	2024 SALES TAX MEASURE	6,915.00
10621	105406	08/09/2024	100-20011	APPIAN VILLAGE	2,212.00
10622	105406	08/09/2024	100-20011	CITY ATTORNEY SERVICES	23,653.00
10623	105406	08/09/2024	100-20011	CITY COUNCIL MEETINGS	3,074.00
10624	105406	08/09/2024	100-20011	FARIA HOUSE DISPOSITION	175.00
10625	105406	08/09/2024	100-20011	FIRE	132.00
10626	105406	08/09/2024	100-20011	GENERAL SERVICES- CITY CLERK	349.00
10627	105406	08/09/2024	100-20011	GENERAL SERVICES- CODE ENFORCEMENT	3,216.00
10628	105406	08/09/2024	100-20011	GENERAL SERVICES- COMMUNITY DEVELOPMENT	1,025.00
10629	105406	08/09/2024	100-20011	GENERAL SERVICES- FINANCE	1,731.50
10630	105406	08/09/2024	100-20011	GENERAL SERVICES- LABOR AND EMPLOYMENT	2,957.50

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
10631	105406	08/09/2024	100-20011	GENERAL SERVICES- POLICE	6,152.50
10632	105406	08/09/2024	100-20011	GENERAL SERVICES- PUBLIC WORKS	3,049.50
10633	105406	08/09/2024	100-20011	MVP CONSTRUCTION DISPUTE	788.50
10634	105406	08/09/2024	100-20011	PINOLE PD SINGH COMPLAINT	207.50
10635	105406	08/09/2024	100-20011	PUBLIC RECORDS ACT	1,462.00
10636	105406	08/09/2024	100-20011	RISK MANAGEMENT	231.00
10637	105406	08/09/2024	100-20011	SUCCESSOR AGENCY	132.00
10969	105406	08/09/2024	100-20011	2024 SALES TAX MEASURE	3,700.50
10970	105406	08/09/2024	100-20011	CITY ATTORNEY SERVICES	17,563.07
10971	105406	08/09/2024	100-20011	CITY COUNCIL MEETINGS	4,234.00
10972	105406	08/09/2024	100-20011	GENERAL SERVICES- CITY CLERK	231.00
10973	105406	08/09/2024	100-20011	GENERAL SERVICES- CODE ENFORCEMENT	3,376.00
10974	105406	08/09/2024	100-20011	GENERAL SERVICES- COMMUNITY DEVELOPMENT	1,569.00
10975	105406	08/09/2024	100-20011	GENERAL SERVICES- FINANCE	396.00
10976	105406	08/09/2024	100-20011	GENERAL SERVICES- LABOR AND EMPLOYMENT	2,495.00
10977	105406	08/09/2024	100-20011	GENERAL SERVICES- POLICE	5,208.57
10978	105406	08/09/2024	100-20011	GENERAL SERVICES- PUBLIC WORKS	2,457.00
10979	105406	08/09/2024	100-20011	MVP CONSTRUCTION DISPUTE	996.00
10980	105406	08/09/2024	100-20011	PCB LITIGATION	158.00
10981	105406	08/09/2024	100-20011	PINOLE SHORES II	3,175.50
10982	105406	08/09/2024	100-20011	PUBLIC RECORDS ACT	1,109.00
10983	105406	08/09/2024	100-20011	RISK MANAGEMENT	198.00
10984	105406	08/09/2024	100-20011	SUCCESSOR AGENCY	189.00
10985	105406	08/09/2024	100-20011	TRAVEL	24.00
Vendor 2817 - REDWOOD PUBLIC LAW, LLP Total:					95,556.47
Vendor: 2877 - RICARDO VELASCO					
INV0010124	105469	08/16/2024	209-20307	REFUND 6/13/24 PARK DEPOSIT	420.00
Vendor 2877 - RICARDO VELASCO Total:					420.00
Vendor: 2440 - RINCON CONSULTANTS, INC.					
58750	105470	08/16/2024	212-461-42101	JULY 2024 CLIMATE ACTION PLAN SERVICES	1,448.50
Vendor 2440 - RINCON CONSULTANTS, INC. Total:					1,448.50
Vendor: 1902 - ROSEMARY JOHNSON					
INV0010117	105471	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 1902 - ROSEMARY JOHNSON Total:					159.00
Vendor: 1450 - RUBENSTEIN SUPPLY COMPANY					
S2614171.001	105472	08/16/2024	100-343-42108	MAINTENANCE SUPPLIES- GEN MAINT	182.03
S2616059.001	105472	08/16/2024	100-343-44306	GENERAL MAINTENANCE SUPPLIES	391.89
Vendor 1450 - RUBENSTEIN SUPPLY COMPANY Total:					573.92
Vendor: 2688 - SHUMS CODA ASSOCIATES, INC.					
10045R	105473	08/16/2024	212-462-42101	JULY PLAN REVIEW SERVICES- BLDG	568.91
Vendor 2688 - SHUMS CODA ASSOCIATES, INC. Total:					568.91
Vendor: 1900 - SIDNEY THOMPSON					
INV0010115	105474	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor 1900 - SIDNEY THOMPSON Total:					159.00

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: SQU00 - SQUARE DEAL GARAGE					
48701	105475	08/16/2024	100-343-42107	VEHICLE REPAIRS- GENERAL MAINTENANCE	1,278.74
Vendor SQU00 - SQUARE DEAL GARAGE Total:					1,278.74
Vendor: 2468 - STACY SHELL					
2671	105476	08/16/2024	100-116-42301	REIMBURSE PARMA CONFERENCE REGISTRATION- HR	619.00
Vendor 2468 - STACY SHELL Total:					619.00
Vendor: 2436 - STRATEGIC ENERGY INNOVATIONS					
5081	105477	08/16/2024	212-461-42101	JULY-AUGUST CLIMATE CORPS- PLANNING	11,000.00
Vendor 2436 - STRATEGIC ENERGY INNOVATIONS Total:					11,000.00
Vendor: SIE04 - THATCHER COMPANY, INC					
2024250104146	105478	08/16/2024	500-641-44303	SODIUM BISULFITE- WWTP	8,627.29
Vendor SIE04 - THATCHER COMPANY, INC Total:					8,627.29
Vendor: 2737 - THE PUN GROUP, LLP					
114612	105479	08/16/2024	100-115-42101	AUDIT OF THE CITY FOR YE 6/30/24	3,770.00
Vendor 2737 - THE PUN GROUP, LLP Total:					3,770.00
Vendor: 2775 - TOWNSEND PUBLIC AFFAIRS, INC.					
22057	105409	08/09/2024	100-115-42101	AUGUST 2024 CONSULTING SERVICES	4,000.00
22091	105409	08/09/2024	100-115-42101	STATE LEGISLATIVE ADVOCACY CONSULTING AUGUST 2024	5,000.00
Vendor 2775 - TOWNSEND PUBLIC AFFAIRS, INC. Total:					9,000.00
Vendor: TRA20 - TRANSUNION RISK AND ALTERNATIVE DATA SOLUTIONS, INC.					
263397-202406-1	105418	08/09/2024	525-118-42510	JUNE 2024 DATA SEARCH SERVICES	128.80
263397-202407-1	105418	08/09/2024	525-118-42510	JULY 2024 DATA SEARCH SERVICES	189.40
Vendor TRA20 - TRANSUNION RISK AND ALTERNATIVE DATA SOLUTIONS, INC. Total:					318.20
Vendor: 1028 - TRI-CITY POWER, INC.					
3927	105410	08/09/2024	100-223-42107	BATTERY REPLACEMENT UPS SYSTEM-PD	1,463.08
Vendor 1028 - TRI-CITY POWER, INC. Total:					1,463.08
Vendor: 2347 - UNION PACIFIC RAILROAD COMPANY					
90129776	105480	08/16/2024	325-342-47205	RO1902 PEDESTRIAN IMPROVEMENTS AT TENNENT AVE.	1,468.83
90133625	105480	08/16/2024	325-342-47205	RO1902 PEDESTRIAN IMPROVEMENTS AT TENNENT	2,908.89
Vendor 2347 - UNION PACIFIC RAILROAD COMPANY Total:					4,377.72
Vendor: UNI38 - UNIVAR USA INC					
52275675	105481	08/16/2024	500-641-44303	CHEMICALS FOR WWTP	17,184.10
52313927	105481	08/16/2024	500-641-44303	SOD HYPO LIQUICHLOR-WWTP	17,411.67
Vendor UNI38 - UNIVAR USA INC Total:					34,595.77
Vendor: UNI07 - UNIVERSAL BUILDING SVCS.					
527733	105482	08/16/2024	500-641-42108	JULY JANITORIAL SERVICE- WWTP	559.00
Vendor UNI07 - UNIVERSAL BUILDING SVCS. Total:					559.00
Vendor: VAL04 - VALLEJO FIRE EXTINGUISHER					
95237	105411	08/09/2024	100-222-42108	ANNUAL FIRE EXTINGUISHER MAINTENANCE-PD	1,042.04
95239	105483	08/16/2024	500-641-42108	ANNUAL EXTINGUISHER MAINTENANCE- WWTP	1,148.54
Vendor VAL04 - VALLEJO FIRE EXTINGUISHER Total:					2,190.58

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: MOO15 - VIRGINIA MOON					
INV0010114	105484	08/16/2024	209-552-36412	REFUND SONOMA WINE TRIP DUE TO CANCELLATION	159.00
Vendor MOO15 - VIRGINIA MOON Total:					159.00
Vendor: VIS01 - VISION SERVICE PLAN					
820724107	105412	08/09/2024	100-110-41003	VISION BENEFITS JULY 2024	74.44
820724107	105412	08/09/2024	100-111-41003	VISION BENEFITS JULY 2024	37.22
820724107	105412	08/09/2024	100-112-41003	VISION BENEFITS JULY 2024	55.83
820724107	105412	08/09/2024	100-113-41003	VISION BENEFITS JULY 2024	18.61
820724107	105412	08/09/2024	100-115-41003	VISION BENEFITS JULY 2024	55.83
820724107	105412	08/09/2024	100-116-41003	VISION BENEFITS JULY 2024	55.83
820724107	105412	08/09/2024	100-221-41003	VISION BENEFITS JULY 2024	446.64
820724107	105412	08/09/2024	100-222-41003	VISION BENEFITS JULY 2024	111.66
820724107	105412	08/09/2024	100-223-41003	VISION BENEFITS JULY 2024	223.32
820724107	105412	08/09/2024	100-341-41003	VISION BENEFITS JULY 2024	74.44
820724107	105412	08/09/2024	100-343-41003	VISION BENEFITS JULY 2024	148.88
820724107	105412	08/09/2024	100-465-41003	VISION BENEFITS JULY 2024	18.61
820724107	105412	08/09/2024	105-221-41003	VISION BENEFITS JULY 2024	74.44
820724107	105412	08/09/2024	106-222-41003	VISION BENEFITS JULY 2024	18.61
820724107	105412	08/09/2024	209-551-41003	VISION BENEFITS JULY 2024	37.22
820724107	105412	08/09/2024	209-552-41003	VISION BENEFITS JULY 2024	55.83
820724107	105412	08/09/2024	209-554-41003	VISION BENEFITS JULY 2024	18.61
820724107	105412	08/09/2024	212-461-41003	VISION BENEFITS JULY 2024	37.22
820724107	105412	08/09/2024	212-462-41003	VISION BENEFITS JULY 2024	74.44
820724107	105412	08/09/2024	500-641-41003	VISION BENEFITS JULY 2024	204.71
820724107	105412	08/09/2024	500-642-41003	VISION BENEFITS JULY 2024	74.44
820724107	105412	08/09/2024	505-119-41003	VISION BENEFITS JULY 2024	37.22
820724107	105412	08/09/2024	998-20106	VISION BENEFITS JULY 2024	74.44
820724110	105412	08/09/2024	998-20106	VISION BENEFITS FOR JULY 2024	55.83
820920683	105412	08/09/2024	100-110-41003	VISION BENEFITS AUGUS...	74.44
820920683	105412	08/09/2024	100-111-41003	VISION BENEFITS AUGUS...	37.22
820920683	105412	08/09/2024	100-112-41003	VISION BENEFITS AUGUS...	55.83
820920683	105412	08/09/2024	100-113-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	100-115-41003	VISION BENEFITS AUGUS...	55.83
820920683	105412	08/09/2024	100-116-41003	VISION BENEFITS AUGUS...	55.83
820920683	105412	08/09/2024	100-221-41003	VISION BENEFITS AUGUS...	446.64
820920683	105412	08/09/2024	100-222-41003	VISION BENEFITS AUGUS...	37.22
820920683	105412	08/09/2024	100-223-41003	VISION BENEFITS AUGUS...	148.88
820920683	105412	08/09/2024	100-341-41003	VISION BENEFITS AUGUS...	74.44
820920683	105412	08/09/2024	100-343-41003	VISION BENEFITS AUGUS...	148.88
820920683	105412	08/09/2024	100-465-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	105-221-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	106-222-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	209-551-41003	VISION BENEFITS AUGUS...	93.05
820920683	105412	08/09/2024	209-552-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	209-554-41003	VISION BENEFITS AUGUS...	18.61
820920683	105412	08/09/2024	212-461-41003	VISION BENEFITS AUGUS...	37.22
820920683	105412	08/09/2024	212-462-41003	VISION BENEFITS AUGUS...	74.44
820920683	105412	08/09/2024	500-641-41003	VISION BENEFITS AUGUS...	204.71
820920683	105412	08/09/2024	500-642-41003	VISION BENEFITS AUGUS...	74.44
820920683	105412	08/09/2024	505-119-41003	VISION BENEFITS AUGUS...	37.22
820920683	105412	08/09/2024	998-20106	VISION BENEFITS AUGUS...	74.44
820920695	105412	08/09/2024	998-20106	VISION BENEFIT FOR AUGUST 2024	74.44
Vendor VIS01 - VISION SERVICE PLAN Total:					4,001.15
Vendor: 2771 - WADSWORTH GLASS, INC.					
33077	105413	08/09/2024	106-343-47201	BALLISTIC WINDOW AT PD	5,538.75
Vendor 2771 - WADSWORTH GLASS, INC. Total:					5,538.75

WARRANT LISTING

Payment Dates: 8/3/2024 - 8/16/2024

Payable Number	Payment Number	Payment Date	Account Number	Description (Payable)	Amount
Vendor: 2603 - WEST VALLEY CONSTRUCTION CO, INC.					
175063	105485	08/16/2024	500-642-47201	SS2201 DESIGN SERVICES DURING CONSTRUCTION-0724	1,210.00
Vendor 2603 - WEST VALLEY CONSTRUCTION CO, INC. Total:					1,210.00
Grand Total:					745,406.52

Report Summary

Fund Summary

Fund	Payment Amount
100 - General Fund	539,301.79
105 - Measure S -2006	152.45
106 - MEASURE S-2014	8,165.97
200 - Gas Tax Fund	20,705.28
203 - Public Safety Augmentation Fund	50,295.12
209 - Recreation Fund	11,480.62
212 - Building & Planning	13,590.73
285 - Housing Land Held for Resale	6,210.00
310 - Lighting & Landscape Districts	680.00
325 - City Street Improvements	4,377.72
500 - Sewer Enterprise Fund	86,691.21
505 - Cable Access TV	74.44
525 - Information Systems	612.04
750 - Recognized Obligation Retirement Fund	2,790.00
998 - Payroll Clearing	279.15
Grand Total:	745,406.52

Account Summary

Account Number	Account Name	Payment Amount
100-10601	Gas Tanks/Corp Yard	4,749.47
100-110-41003	Emp Benefits/Vision Care	148.88
100-110-42201	Office Expense	395.71
100-110-42401	Dues & Pub/Membershi...	6,781.00
100-110-42514	Admin Exp/Special Depa...	246.62
100-111-41003	Emp Benefits/Vision Care	74.44
100-111-42201	Office Expense	77.47
100-112-41003	Emp Benefits/Vision Care	111.66
100-112-42101	Prof Svcs/Professional Se..	134.93
100-112-42514	Admin Exp/Special Depa...	531.56
100-113-41003	Emp Benefits/Vision Care	37.22
100-115-41003	Emp Benefits/Vision Care	111.66
100-115-42101	Prof Svcs/Professional Se..	13,062.43
100-116-41003	Emp Benefits/Vision Care	111.66
100-116-42101	Prof Svcs/Professional Se..	10,803.40
100-116-42301	Travel & Training/Conf-R...	619.00
100-117-41004	Emp Benefits/PERS Retir...	307,188.66
100-20011	Accounts Payable/Miscel...	172,707.78
100-221-41003	Emp Benefits/Vision Care	893.28
100-221-41008	Emp Benefits/Long Term...	594.00
100-221-42101	Prof Svcs/Professional Se..	32.00
100-221-42110	Prof Svcs/Fingerprinting	49.00
100-222-41003	Emp Benefits/Vision Care	148.88
100-222-42101	Prof Svcs/Professional Se..	119.00
100-222-42106	Prof Svcs/Software Main...	2,456.40
100-222-42108	Prof Svcs/Building-Struc...	2,145.88
100-223-41003	Emp Benefits/Vision Care	372.20
100-223-41008	Emp Benefits/Long Term...	287.70
100-223-42107	Prof Svcs/Equipment Ma...	1,463.08
100-231-41004	Emp Benefits/PERS Retir...	299.33
100-231-42512	Admin Exp/Abatement	3,658.50
100-341-41003	Emp Benefits/Vision Care	148.88
100-341-42101	Prof Svcs/Professional Se..	1,893.50
100-343-41003	Emp Benefits/Vision Care	297.76
100-343-42107	Prof Svcs/Equipment Ma...	1,278.74
100-343-42108	Prof Svcs/Building-Struc...	753.54
100-343-44306	Other Materials Supp/M...	1,353.12
100-345-42108	Prof Svcs/Building-Struc...	1,206.61

Account Summary

Account Number	Account Name	Payment Amount
100-345-43103	Utilities/Electricity & Po...	49.39
100-345-44306	Other Materials Supp/M...	1,870.23
100-465-41003	Emp Benefits/Vision Care	37.22
105-221-41003	Emp Benefits/Vision Care	93.05
105-221-41008	Emp Benefits/Long Term...	59.40
106-222-41003	Emp Benefits/Vision Care	37.22
106-343-42101	Prof Svcs/Professional Se..	2,590.00
106-343-47201	Improvements/Building	5,538.75
200-342-43103	Utilities/Electricity & Po...	20,705.28
203-221-47101	FF&E/Equipment	50,295.12
209-20307	Deposits Payable/Recrea...	630.00
209-551-41003	Emp Benefits/Vision Care	130.27
209-552-36412	Recreation Chg/Travel	1,272.00
209-552-41003	Emp Benefits/Vision Care	74.44
209-552-42107	Prof Svcs/Equipment Ma...	850.00
209-552-42108	Prof Svcs/Building-Struc...	3,068.77
209-552-43802	Program Cost/Class Fees	567.35
209-552-43804	Program Cost/Food Prog...	2,563.08
209-552-43810	Program Cost/Center Ma..	429.67
209-553-42108	Prof Svcs/Building-Struc...	516.23
209-554-41003	Emp Benefits/Vision Care	37.22
209-554-42108	Prof Svcs/Building-Struc...	1,192.86
209-554-42515	Admin Exp/Special Events	148.73
212-461-41003	Emp Benefits/Vision Care	74.44
212-461-42101	Prof Svcs/Professional Se..	12,448.50
212-462-41003	Emp Benefits/Vision Care	148.88
212-462-42101	Prof Svcs/Professional Se..	568.91
212-462-42106	Prof Svcs/ Software Mai...	350.00
285-464-42101	Prof Svcs/Professional Se..	6,210.00
310-347-43103	Utilities/Electricity & Po...	280.00
310-348-43103	Utilities/Electricity & Po...	400.00
325-342-47205	Improvements/Streets	4,377.72
500-10601	Gas Tanks/Corp Yard	4,213.08
500-641-41003	Emp Benefits/Vision Care	409.42
500-641-42107	Prof Svcs/Equipment Ma...	4,185.50
500-641-42108	Prof Svcs/Building-Struc...	1,707.54
500-641-42109	Prof Svcs/Compliance In...	5,813.46
500-641-42302	Travel & Training/Milea...	1,917.64
500-641-42303	Travel & Training/Meal A..	378.00
500-641-44302	Other Materials Supp/Sl...	6,345.93
500-641-44303	Other Materials Supp/C...	43,304.20
500-641-44305	Other Materials Supp/La...	2,074.19
500-641-44306	Other Materials Supp/M...	5,929.76
500-642-41003	Emp Benefits/Vision Care	148.88
500-642-42101	Prof Svcs/Professional Se..	8,532.60
500-642-44306	Other Materials Supp/M...	521.01
500-642-47201	Improvements/Building	1,210.00
505-119-41003	Emp Benefits/Vision Care	74.44
525-118-42510	Admin Exp/Software Pur...	318.20
525-118-43101	Utilities/Telephone	133.66
525-118-43106	Utilities/Internet	160.18
750-463-42101	Prof Svcs/Professional Se..	2,790.00
998-20106	Sal & Ben Payable/Vision...	279.15
Grand Total:		745,406.52

Project Account Summary

Project Account Key	Payment Amount
None	731,690.05

Project Account Summary

Project Account Key
10634342101IN2102
10634347201FA2301
32534247205RO1902
50064247201SS2201

Payment Amount
2,590.00
5,538.75
4,377.72
1,210.00
745,406.52

Grand Total:

Approved by



Date:

8/14/2024



CITY COUNCIL REPORT

9.C.

DATE: AUGUST 20, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: HEATHER BELL, CITY CLERK
SUBJECT: LETTER OF CONCERN REGARDING PROPOSED SCOTTS VALLEY MEGA CASINO AND TRIBAL HOUSING PROJECT IN SOLONO COUNTY

RECOMMENDATION

Staff recommends that the City Council consider approving the letter of concern regarding the proposed Scotts Valley Mega Casino and Tribal Housing Project in Solono County.

BACKGROUND

At the City Council meeting on August 6, 2024, Mayor Toms requested a future agenda item for the City Council to approve a letter to send to the Bureau of Indian Affairs by August 22, 2024. The City Council gave its consensus to direct staff to prepare the item for review at the August 20th City Council meeting.

REVIEW AND ANALYSIS

The City of San Pablo, through its staff and elected representatives, has requested support from its regional partners to send a letter of concern to the Bureau of Indian Affairs by August 22, 2024 the deadline for public review for the proposed casino project. A sample letter of concern is included as an attachment to this staff report for the City Council's review and consideration. The letter provides comment and expresses concern regarding the Environmental Assessment (EA) document review process as well as potential regional and socio-economical impacts of the project.

Also included as an attachment is a similar letter of concern regarding the project that was sent by the Contra Costa County Board of Supervisors to the Department of the Interior for additional reference.

Should the City Council approve the letter of concern, staff will facilitate signature by the Mayor and the letter will be sent to the U.S. Department of the Interior and the Pacific Regional Office of the Bureau of the Indian Affairs with a copy to Senators Padilla and Butler, Representative John Garamendi and the San Pablo City Council.

FISCAL IMPACT

There is no fiscal impact.

ATTACHMENTS

- A. Draft Sample Letter
- B. Contra Costa County Board of Supervisors - Letter of Concern

DRAFT SAMPLE LETTER TO US DEPT OF INTERIOR AND BIA OFFICIALS

August____, 2024

The Honorable Deb Haaland
Secretary
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

with copy to:

Amy Dutschke, Regional Director
Bureau of Indian Affairs, Pacific Regional Office
2800 Cottage Way, Room W-2820
Sacramento, CA 95825

Email: amy.dutschke@bia.gov; chad.broussard@bia.gov

RE: CONCERNS REGARDING THE PROPOSED SCOTTS VALLEY MEGA CASINO AND TRIBAL HOUSING PROJECT IN SOLANO COUNTY, VALLEJO, CA

Dear Secretary Haaland:

Please allow this letter to serve as a letter of comment and concern regarding the current Environmental Assessment (EA) document circulated on July 8, 2024 by the US Department of Interior / Bureau of Indian Affairs (BIA) officials to address the environmental impacts associated with the above mega Casino project, located in Solano County, City of Vallejo, CA under the National Environmental Policy Act (NEPA).

The City/County of _____urges (BIA) officials to not expedite its public review of the current EA document without fully addressing and evaluating all significant environmental impacts of the proposed mega Casino project under an appropriate Environmental Impact Statement (EIS) under NEPA for the proposed project.

The City/County of _____, CA supports comments previously submitted by the City of San Pablo, CA on July 22, 2024 to BIA officials in addition to other comments expressed to BIA officials to date on their grave concerns over the lack of a full, comprehensive review of all associated environmental, socio-economic and environmental justice impacts associated with this proposed project in the EA document.

Since 1999, San Pablo has been the host community for the San Pablo Lytton Casino, owned and operated by the Lytton Rancheria Band of Pomo Indians, in West Contra Costa County which is located 16-miles from the proposed project site along the I-80 freeway corridor. The City of San Pablo and San Pablo Lytton Casino stem to lose significant annual Casino funds (i.e. -20% annual

reduction) which will pose a significant socio-economic and environmental justice impacts to this low-income and socio-disadvantaged community in West Contra Costa County region.

San Pablo’s current program and service delivery of local municipal services is at **critical stake** to its local residents, and surrounding local communities, which are directly impacted by this proposed mega Casino project, with a corresponding projected loss of \$8-\$10M annually to occur to the City’s General Fund Operating Budget through an existing Municipal Services Agreement between the City of San Pablo and Lytton Tribe. Our City/County of _____ echoes these concerns as we support City and County regional partnerships and services with the City of San Pablo which are mutually and jointly funded between several local municipalities and Contra Costa County across the West Contra Costa County region.

In closing, the City/County of _____ urges BIA officials to carefully evaluate all significant, adverse socio-economic and environmental impacts under a comprehensive, and meaningful engagement process under NEPA, with all members of the public, stakeholders and other Tribes and local communities who will be directly impacted by this newly proposed, mega Casino project.

Furthermore, we hereby request that US Department of Interior and BIA officials to take the time to hear from all affected parties, and avoid from making any expedited final determinations or lasting detrimental impacts which would be precedential, and potentially ushering in a new era of diminished scrutiny of the regulatory process that circumvents proper consultation with affected local Tribes and communities on mega Casino projects in the Bay Area region.

Thank you for the opportunity to voice these concerns and comments on the NEPA environmental review process to date.

SINCERELY:

_____, MAYOR/COUNTY SUPERVISOR

City/County of _____

cc: US Senator Alex Padilla
US Senator Laphonza Butler
US Representative John Garamendi, D-8th
San Pablo City Council

The Board of Supervisors

County Administration Building
1025 Escobar St., 4th floor
Martinez, California 94553

John Gioia, 1st District
Candace Andersen, 2nd District
Diane Burgis, 3rd District
Ken Carlson, 4th District
Federal D. Glover, 5th District

Contra Costa County



Monica Nino
Clerk of the Board
and
County Administrator
(925) 655-2075

July 26, 2024

The Honorable Deb Haaland
Secretary
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

RE: Concerns Regarding the Proposed Scotts Valley Mega Casino and Tribal Housing Project in Solano County, Vallejo, CA

Dear Secretary Haaland:

Please allow this letter to serve as a letter of comment and concern from the Contra Costa County Board of Supervisors regarding the current Environmental Assessment (EA) document circulated on July 8, 2024 by the US Department of Interior / Bureau of Indian Affairs (BIA) officials to address the environmental impacts associated with the above mega Casino project, located in Solano County, City of Vallejo, CA under the National Environmental Policy Act (NEPA).

Contra Costa County urges BIA officials to not expedite its public review of the current EA document without fully addressing and evaluating all significant environmental impacts of the proposed mega Casino project under an appropriate Environmental Impact Statement (EIS) under NEPA for the proposed project.

Contra Costa County supports comments previously submitted by the City of San Pablo, CA on July 22, 2024 to BIA officials in addition to other comments expressed to BIA officials to date on their grave concerns over the lack of a full, comprehensive review of all associated environmental, socio-economic and environmental justice impacts associated with this proposed project in the EA document.

Since 1999, San Pablo has been the host community for the San Pablo Lytton Casino, owned and operated by the Lytton Rancheria Band of Pomo Indians, in West Contra Costa County which is located 16-miles from the proposed project site along the I-80 freeway corridor. The City of San Pablo and San Pablo Lytton Casino stem to lose significant annual Casino funds (i.e. -20% annual reduction) which will pose a significant socio-economic and environmental justice impacts to this low-income and socio-disadvantaged community in West Contra Costa County region.

San Pablo's current program and service delivery of local municipal services is at stake to its local residents, and surrounding local communities, which are directly impacted by this proposed mega Casino project, with a corresponding projected loss of \$8-\$10M annually to occur to the City's General Fund Operating Budget through an existing Municipal Services Agreement between the City of San Pablo and Lytton Tribe. We echo these concerns as we support City and County regional partnerships and services with the City of San Pablo which are mutually and jointly funded between several local municipalities and Contra Costa County across the West Contra Costa County region.

In closing, Contra Costa County urges BIA officials to carefully evaluate all significant, adverse socio-economic and environmental impacts under a comprehensive, and meaningful engagement process under NEPA, with all members of the public, stakeholders and other Tribes and local communities who will be directly impacted by this newly proposed, mega Casino project.

Furthermore, we hereby request that US Department of Interior and BIA officials to take the time to hear from all affected parties and avoid from making any expedited final determinations or lasting detrimental impacts which would be precedential, and potentially ushering in a new era of diminished scrutiny of the regulatory process that circumvents proper consultation with affected local Tribes and communities on mega Casino projects in the Bay Area region.

Thank you for the opportunity to voice these concerns and comments on the NEPA environmental review process to date.

Sincerely,



FEDERAL D. GLOVER
Chair, Board of Supervisors

cc: Amy Dutschke, Regional Director, BIA Pacific Regional Office
US Senator Alex Padilla
US Senator Laphonza Butler
US Representative John Garamendi, D-8th
San Pablo City Council
Contra Costa County Board of Supervisors
Monica Nino, County Administrator
Thomas Geiger, County Counsel
Paul Schlesinger & Jim Davenport, Thorn Run Partners



CITY COUNCIL REPORT

9.D.

DATE: AUGUST 20, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: LILLY WHALEN, COMMUNITY DEVELOPMENT DIRECTOR
SUBJECT: ISSUE LETTER OF SUPPORT FOR THE CITY OF PINOLE AND RICHMOND COMMUNITY FOUNDATION'S APPLICATION TO THE PARTNERSHIP FOR THE BAY'S FUTURE POLICY FUND GRANT (COHORT 3)

RECOMMENDATION

Issue a letter of support for the City of Pinole and Richmond Community Foundation's (RCF) application to PBF's Policy Fund Cohort 3.

BACKGROUND

The Partnership for the Bay's Future (PBF) is a collaborative initiative involving philanthropic, private, nonprofit, and public sectors, along with community and faith-based leaders, housing experts, elected officials, and residents. PBF aims to protect current affordable housing residents and to preserve and produce additional affordable housing in the Bay Area, focusing on racial equity and economic inclusion.

The Policy Fund, managed by the San Francisco Foundation, aims to improve local policy and address housing needs. It places fellows in local governments to enhance expertise and foster collaboration, develops partnerships to advocate for effective housing policies, and provides technical support and models for other regions.

PBF has announced a Request for Proposals for Cohort 3 of the Policy Fund (**Attachment A**). This grant offers two years of capacity building, community engagement, and tailored technical assistance to jurisdictions in several Bay Area counties. Selected jurisdictions will receive in-kind support from a full-time PBF fellow and funding for community partners. A letter of support from a local government's Mayor or Councilmember is required with the application. The deadline is August 30, 2024.

REVIEW AND ANALYSIS

This report requests that the City Council issue a letter of support (**Attachment B**) for the City of Pinole and the Richmond Community Foundation's (RCF) application to the Partnership for the Bay's Future (PBF) Policy Fund. The RCF is a not-for-profit organization whose goal is to create and support systems built on equity and justice, free from racism, bias and discrimination. RCF achieves this through connection and collaboration with community partners, residents and local governments to identify and address community issues that maintain inequities and share information and resources to increase access to opportunities.

The proposed project's application to the PBF Policy Fund aims to implement key programs from the City's adopted and certified Housing Element. The proposed project involves using a social impact bond model to rehabilitate abandoned and blighted homes, promote first-time homeownership, provide affordable housing options, engage local BIPOC (Black, Indigenous, and people of color) contractors and real estate agents, and revitalize neighborhoods. This initiative, supported by a PBF Fellow and the RCF, aims to implement Housing Element Programs 17, 16, and 7, and enhance the City's existing Rental Registry Program.

The primary goals of the work are to rehabilitate abandoned and blighted homes, create modern and energy-efficient homes, and promote first-time homeownership. The proposed project will be funded using a social impact bond model to finance the acquisition and rehabilitation of these homes. Additionally, the proposed project aims to provide opportunities for affordable homeownership, engage local BIPOC contractors and real estate agents, and revitalize neighborhoods. The renovated homes will be modern, energy-efficient, safe, and healthy, making them attractive options for first-time homebuyers. Engaging local BIPOC contractors and real estate agents will boost the local economy and promote inclusion. Ultimately, this initiative aims to revitalize neighborhoods, improving both safety and property values. The proposed project also seeks to develop a policy for the City's use of limited affordable housing funds, establish systems to ensure rentals are properly licensed and regularly inspected, and enhance the City's understanding of its rental stock.

The proposed project aligns with several key programs in the City's Housing Element:

- Housing Element Program 17: Focuses on acquiring and rehabilitating blighted or distressed properties to make them available to low-income households as affordable housing. This project will pursue partnerships with local BIPOC contractors and utilize the social impact bond model for financing.
- Housing Element Program 16: Seeks to reinstate the City's Rehabilitation Assistance Program by exploring local, state, and federal funding opportunities annually. This project will align with these goals by seeking funding to reinstate the City's Rehabilitation Assistance Program.
- Housing Element Program 7: Aims to develop a policy that prioritizes the use of affordable housing funds in alignment with RHNA requirements, local housing needs, and fair housing objectives. This includes creating affordable housing in high-opportunity areas, waiving park impact fees for affordable units, and potentially introducing an in-lieu fee alternative for inclusionary housing requirements. Part of the work under the PBF's Grant Policy will incorporate these priorities.

Additionally, staff has identified that the City would benefit from a comprehensive system to monitor and track rental properties to both ensure that rentals are properly licensed and regularly inspected and provide the city with further understanding of its rental stock. This includes creating a rental property registry and inventory of at-risk units, implementing landlord licensing and local eviction tracking, acquiring software for rental registration, training staff, marketing the program, and outsourcing inspection services to meet increased demand. Part of the work done under the PBF's Grant Policy will support these objectives by ensuring compliance with health and safety standards and enhancing the City's understanding of its rental stock.

In terms of alignment with city goals, the project supports the implementation of the 2023-2031 Housing Element, addressing the city's affordable housing and neighborhood revitalization objectives. It strengthens policies for the use of housing funds to meet local needs and ensures comprehensive monitoring and compliance in rental properties. The project will also support first-time homebuyers and provide much-needed affordable housing opportunities.

The RCF has successfully implemented this social impact bond model in the City of Richmond (see case study on the RCF's pilot project from the EPA- **Attachment C**) and is excited to work with the City and the PBF to implement these important programs in Pinole.

FISCAL IMPACT

Issuing a letter of support for the City and RCF's application to PBF's Policy Fund does not have a fiscal impact.

Awardees are expected to be announced in November 2024, with the work launching in January 2025. If selected as an awardee, the City would commit to the following:

- Designate a staff member to supervise the PBF Fellow for the two-year grant period, providing onboarding, performance feedback, daily guidance, and ensuring the Fellow has an onsite workspace with access to necessary systems and tools.
- Ensure staff attend regular PBF meetings, including one in-person meeting and one virtual Government Partner meeting per quarter.
- Collaborate closely with the Community Partner, participating in regular site team meetings.
- Commit to fully implementing policies beyond the two-year grant period, if applicable.
- Share key information (updates, briefings, reports) with the Policy Fund and work with the Policy Fund evaluation team to measure outcomes.

If selected as an awardee, the RCF would commit to do the following:

- Designate a staff member to support and guide the PBF Fellow during the two-year grant period, providing guidance, orientation, introductions, and access to key stakeholders.
- Ensure staff attend one in-person convening and one virtual Community Partner meeting per quarter.
- Collaborate closely with the Government Partner, participating in regular site team meetings.
- Support the implementation of policies beyond the two-year grant period, if applicable.
- Share key information (updates, briefings, reports) with the Policy Fund and work with the Policy Fund evaluation team to measure outcomes.

ATTACHMENTS

- A. PBF Policy Fund RFP
- B. Pinole PBF Policy Fund Letter of Support Council
- C. RCF Case Study

Policy Fund Grants

PARTNERSHIP FOR
**THE BAY'S
FUTURE**

Request for Proposal and Application

June 2024



Table of Contents

What Is Partnershipo for the Bay's Future	3
Policy Fund	3
Family of Loan Funds	4
What Are the Policy Fund Grants?	4
Why Apply?	5
Who Is Eligible to Apply?	6
What Support Is There to Help Interested Local Governments Apply?	6
Past Grantee Policy Projects	7
Your Commitment	7
How Do I Apply for a Policy Fund Grant?	9
How Will Applications Be Evaluated?	9
Application and Selection Timeline	10
How Can I Learn More About the Policy Fund?	11
Policy Fund Grant Application	11

What Is Partnership for the Bay's Future?



The Partnership for the Bay's Future helps make homes more affordable across the Bay Area with a unique dual approach: in collaboration with partners, we 1) work to advance policy changes that protect residents and improve affordability, and 2) invest in building new and rehabilitating existing affordable homes – always through a lens of racial equity and economic inclusion. We bring this two-pronged strategy to life through the

- **Policy Fund**, which supports policy solutions to stem the tide of displacement, and preserve and produce housing, and
- **Family of Loan Funds**, which increases housing supply through responsive and creative financing.

Policy Fund



The Policy Fund is the key policy arm of the Partnership for the Bay's Future and recognizes that bold policy change is needed to address our housing shortage and affordability challenges. Managed by the San Francisco Foundation, the Policy Fund builds the capacity and networks required for equitable local policy change by working with community groups to help them bring the voices of renters, low-income residents, and people of color into the local and regional policy process and by helping local governments create and successfully implement policies that enable more Bay Area residents to remain in their communities.

The Policy Fund administers grant programs that are designed to:

- **Increase racial and economic equity across the region** by increasing affordable housing production, preserving existing affordable housing, and stemming displacement of people of color and other marginalized communities from across the Bay Area
- **Develop a robust regional network and a community of practice** made up of housing advocates in local government and community-based organizations
- **Support the rise of new government and community leaders** that can support the region's housing and tenant protection efforts long-term
- **Provide models for change** that inspire other local governments to follow suit
- **Connect with aligned change efforts** across the region that amplify impact



Family of Loan Funds



The Family of Loan Funds, one of the nation's largest-ever private-sector housing funds, supports the production and preservation of affordable homes in five Bay Area counties. Managed by the Local Initiatives Support Corporation (LISC), these funds are designed to address the lack of affordable homes – a reality that disproportionately impacts households of color – by bridging funding gaps throughout the region's rental housing market.



What Are the Policy Fund Grants?



PBF is launching the 3rd round of the Policy Fund Grant, a program to bring together Bay Area local governments and catalyze policy innovation in tenant protection as well as building and preserving affordable housing in local communities. The Policy Fund will select a cohort of site teams that propose the highest-impact, yet realistically achievable policy plans, from development to implementation, to be a part of the cohort.

The cohort will be made up of local site teams working collaboratively to advance housing production, preservation, and protection policy across the Bay Area. A site team will consist of local government staff (Government Partners) who work closely with their PBF Fellow and a local community partner organization (Community Partner). This "inside-outside" partnership ensures community input and support for local policy research, development, and implementation and provides essential capacity to move the work forward.



Within the two-year grant period, each of the Policy Fund Grant site teams will receive two years of capacity building, community engagement, and tailored technical assistance support from the Policy Fund. After the grant period, participants will become part of the Policy Fund alumni program, and continue to have access to the Partnership network and other supports.

Chosen jurisdictions will be expected to pass and/or implement a package of affordable housing production, protection and preservation policies in collaboration with their community partners. If your jurisdiction is interested in applying and is not sure who might be a suitable community partner, contact the Policy Fund to discuss options.

Why Apply?



The Policy Fund Grants are designed to have a transformative effect on how local governments approach housing through community-driven policy. Through increased capacity and tailored technical assistance, these grants will support breakthroughs in local housing initiatives by moving local policies forward.

Over a two-year time frame, Policy Fund sites will receive a capacity building and technical assistance package to pass and implement production, preservation, and protection policies. The package will include:

- A full-time PBF Fellow placed in the local government's office dedicated to moving Policy Fund Grant work forward. The fellow also serves as a liaison between the local government and the community partner.
- Funding and support for community partners to work in partnership with the local government by helping in developing and building community support for the proposed policies. Community Partners ensure that community voice is part of the policy process and will receive grants from the Policy Fund.
- Peer cohorts that meet regularly throughout the grant period to exchange ideas and problem-solve in real time. These meetings will include training and leadership development for PBF Fellows, Community Partners, and Government Partners.
- Access to tailored technical assistance, including technical assistance funds, to boost capacity in areas such as messaging and communications, data analysis, polling and public opinion, and policy and budget strategy, as well as technical analyses needed to inform policy development or implementation.



Who Is Eligible to Apply?



Policy Grants are open to local governments (towns, cities, and counties) that are currently experiencing—or at risk of experiencing—displacement or exclusion of low-income people and communities of color. The Policy Fund will accept applications from local governments in the following counties:

- Alameda
- Contra Costa
- Marin
- San Francisco
- San Mateo
- Santa Clara

Successful applications will explain how the local government will adopt and/or implement its proposed policy package to advance tenant protection, homelessness prevention, affordable housing production and preservation in collaboration with a chosen Community Partner. See below for a list of potential policy projects.

Site teams that have previously received a Policy Fund Grant are eligible to apply.

What Support Is There to Help Interested Local Governments Apply?



The Policy Fund is offering support to site teams who need support in developing their proposals. Local governments may request a grant by applying for an **Application Grant**. These grants will provide funding to a site team to work with consultants or cover staff time required to develop a competitive grant proposal.

If your local government is interested in applying for this opportunity but is not sure who might be a suitable Community Partner, contact the Ella Zimbalist, ezimbalist@ff.org, to discuss options.

The Application Grant is an optional support that the Policy Fund is pleased to offer applicants. Local governments do not need an Application Grant to pursue a Policy Fund Grant.



Past Grantee Policy Projects



You may find it helpful to review previous site teams' policy collaborations to get a sense of what makes a compelling project.

Previous grantees and policy projects are listed and described here:

- [Cohort 1 \(2020-2022\)](#)
- [Cohort 2 \(2022-2024\)](#)
- [Blog posts](#)
- [Evaluation reports](#)

Other PBF highlights:

- [Community-Driven Housing Solutions in Antioch](#)
- [Opportunity to Purchase Playbook](#)
- [Tangled Roots: An Oral History of Community in Las Deltas](#)

Additionally, we have found over the course of two cohorts that the successful site teams show the following characteristics:

- Government Partners are prepared to supervise and empower the PBF Fellow to bring community voice into the policy process
- Government Partners and Community Partners build trusting, authentic relationships by learning from each other and meeting regularly
- The proposed policies are a high priority for the whole team and the team is prepared to adapt to changing circumstances together
- Each team member is supportive of each other's role and power, and ready to leverage each other's strengths to advance policy goals

Your Commitment



Selected Government Partners commit to:

- Designate a staff member to supervise the PBF Fellow for the two-year grant period, providing onboarding, performance feedback, daily guidance, and ensuring the Fellow has an onsite workspace with access to necessary systems and tools.
- Ensure staff attend regular PBF meetings, including one in-person meeting and one virtual Government Partner meeting per quarter.
- Collaborate closely with the Community Partner, participating in regular site team meetings.
- Commit to fully implementing policies beyond the two-year grant period, if applicable.
- Share key information (updates, briefings, reports) with the Policy Fund and work with the Policy Fund evaluation team to measure outcomes.

Selected Community Partners commit to:

- Designate a staff member to support and guide the PBF Fellow during the two-year grant period, providing guidance, orientation, introductions, and access to key stakeholders.
- Ensure staff attend one in-person convening and one virtual Community Partner meeting per quarter.
- Collaborate closely with the Government Partner, participating in regular site team meetings.
- Support the implementation of policies beyond the two-year grant period, if applicable.
- Share key information (updates, briefings, reports) with the Policy Fund and work with the Policy Fund evaluation team to measure outcomes.



How Do I Apply for a Policy Fund Grant?

How Will Applications Be Evaluated?



The Policy Fund will evaluate applications based on the following criteria:

1. **Proposed policy solutions backed by community engagement that advance racial and economic equity and facilitate innovative approaches.** Successful applications will identify the displacement and exclusion impacts within your local government and propose policy changes that address affordable housing production, tenant protection and/or preservation. Applicant local governments will need to identify a strong community organization to serve as lead partner in community engagement and share a strong community partnership plan. Proposed policy should be grounded in what is most strategic and impactful for your local government.
2. **Foster an enabling environment for equitable production, preservation and tenant protection wins.** The Policy Fund recognizes that policy change does not occur overnight. While an ideal outcome would include the passage and implementation of new affordable housing production, tenant protection and preservation policies, mapping out and taking significant strides to facilitate longer-term policy goals are also acceptable.
3. **Develop and share scalable workplans and outcomes for significant impact.** Proposals should demonstrate high impact in producing and preserving affordable housing. The selection committee will also give strong consideration to applications that propose innovative policies that have yet to be tested, but show great promise, or groundbreaking policies that catalyze change in a local government with few to no affordable housing production or preservation policies.
4. **Facilitate a robust regional network of housing justice champions in local government and community-based organizations.** The Policy Grants are geared towards local governments with the willingness to engage deeply with community to develop policy solutions that meet local needs. Strong applicants will also have capacity and interest in engaging in regional efforts. Applicant site teams will need to identify a strong community-based organization to serve as lead partner in community engagement and share a strong community partnership plan. This group may have even had a contentious relationship with the lead local government agency in the past but remains well-positioned to empower local communities and shape the policy-making process. Local governments may select more than one community partner to advance community engagement work.
5. **Demonstrate buy-in for the core values and approach of PBF.** Both government and community partners must demonstrate understanding and commitment to engaging community in the policy process, and an interest in utilizing an inside/outside strategy to accomplish policy goals. All institutions engaged in your site team are committed to advancing the shared goals even if contexts change.
6. **Ability to be an active participant in the PBF network.** Proposals should demonstrate a commitment to being active members of the PBF network, including attending quarterly convenings. Applications should ensure strong institutional and individual buy-in from both Government Partners and Community Partners. To form maximize impact, applicants should also indicate interest and ability to supervise and support the PBF Fellow.

Application and Selection Timeline

June 2024

- Policy Grant application is released. Applications will be accepted on a rolling basis.
- Applicants who are seeking technical assistance in putting together their applications should apply for an [Application Grant](#).

July 2024

- July 9, 1-2pm: Information session. [Register here](#).
- July 16, 12-1pm: Information session. [Register here](#).

August 30, 2024

- Policy Grant proposals due

September 2024

- Applications reviewed by the Policy Fund and applicants interviewed

October 2024

- Policy Fund Grant finalists interviewed
- Fellow interviews and site team matching

November 2024

- Site teams announced

January 2025

- Grant and fellowship launch

Please note that dates are subject to change.



How Can I Learn More About the Policy Fund and Application?



Join us for an informational webinar:

- July 9, 1-2pm. [Register here](#)
- July 16, 12-1pm. [Register here](#)

For more information or any questions you might have about the Policy Grants, contact Ella Zimbalist at ezimbalist@sff.org.

Policy Fund Grant Application

Open: Friday, June 21, 2024

Close: Friday, August 30th, 2024 at 11:59 PM PST

Below is the application. When ready to submit, please email your document to Ella Zimbalist at ezimbalist@sff.org.

Application

Welcome to the 2025-2027 Policy Fund Grant Application. Thank you for your interest in this opportunity to advance equitable housing solutions in the Bay Area.

The application is meant to help us get to know your site team and better understand your approach and vision for change.

The application is due on Friday, August 30th, 2024. Finalists will be announced in September. Finalists will participate in a site team interview and in the interview and matching process for the PBF Fellows. The awards will be announced in early November and will begin in January 2025.

Need help applying? The Policy Fund is offering Application Grants to local governments who need support in developing their Policy Fund Grant applications. Local government may request an [Application Grant here](#).

I. Basic information

Name of Local Government:

Name of staff contact person for application:

Title:

Government Department:

Email:

Phone Number:

Policy Fund Grant Application

Name of person providing direct supervision to fellow:

Title:

Government Department:

Email:

Phone number:

Address:

Secondary person providing direct supervision to fellow (in the event the primary person is unavailable), if applicable:

Title:

Government Department:

Email:

Phone number:

Address:

II. Proposal

Please submit a proposal describing the following. Note that there is no minimum or maximum length required. *3 pages should be sufficient but there will be no penalty for going over or under this length.*

1. **Vision, policy priorities, and impact:** Please describe your vision, policy priorities, and anticipated impact. Share why you have chosen to advance these particular policies and whether they are part of a new or continuing effort. Please include whether and how the proposed policies are related to your local government's Housing Element.
2. **Focus on equity:** Please describe how your proposal will improve racial and economic equity in your jurisdiction.
3. **Past efforts:** Please describe the most significant affordable housing preservation and/or production policies or work towards these policies that your city/town has passed in the past 2-5 years. If you have not made significant policy progress, please describe your obstacles.
4. **Stakeholders and community partnership:** Please share your plan to engage your community in the policy process, with a specific emphasis on engaging low-income people and communities of color. Describe the community group that will serve as your lead partner and, if your application is successful, will receive two years of grant funding from the Policy Fund. Identify the key point person as well as a back-up plan in case of any unexpected transition.
5. **Local government leadership and contribution to success of effort:** Please describe what your local government will contribute to ensure the success of this effort. This could include your city/town's track record of equitable housing policies, particular community context, available resources to advance the proposed policy package, or key team members (like staff or electeds) who will support this work. Please also describe how your team sees engaging community as a strategy and asset to advance your specific policy goals. Identify the key point person as well as a back-up plan in case of any unexpected transition.

Policy Fund Grant Application

III. Approach and Key Milestones

Please explain your approach to passing and beginning successful implementation of your policy package, including: *2 pages should be sufficient but there will be no penalty for going over or under this length. There are no formatting requirements.*

- Key activities and timeline for policy development, passage and implementation, including semi-annual milestones
- Key stakeholders for policy development, passage and implementation
- Your plans for implementing these policies once they are adopted, including timeline, responsible departments/staff and budget

IV. Letters of Support

Please include short letters (no longer than one page) of support for your proposal from the following:

- Your lead community partner: This letter should acknowledge that your community partnership plan was crafted with their input
- Your mayor (if a city) and/or a councilmember
- Your city manager or county administrator
- Optional: Additional key supporting partners who will be part of the Policy Grant effort, such as a key affordable housing developer

August 20, 2024

Partnership for the Bay's Future
2075 Broadway St,
Redwood City, California, 94063

Re: City of Pinole: Partnership for the Bay's Future Policy Fund – Letter of Support

Dear Partnership for the Bay's Future Policy Fund Review Committee,

I am writing on behalf of the City of Pinole in support of our application to the Partnership for the Bay's Future Policy Fund Grant Program Cohort 3. The City of Pinole is deeply committed to addressing the pressing need for affordable housing within our community while ensuring that our efforts align with principles of racial equity and economic inclusion. We believe that our proposed project embodies these values and will contribute significantly to the well-being of our residents.

The City of Pinole's proposed initiative aims to issue a municipal bond to support the purchase, renovation, and sale of single-family homes, specifically targeting first-time homebuyers. This project will not only help increase the housing stock in our city but also improve public safety by focusing on properties that currently fall out of code. Additionally, the renovation of these homes will be conducted with a strong emphasis on environmental sustainability, incorporating green technologies to reduce the carbon footprint and promote long-term environmental benefits.

A crucial element of our proposal is our partnership with the Richmond Community Foundation. This nonprofit organization brings a wealth of experience and a proven track record of success in managing similar programs throughout the Bay Area. Their expertise and dedication to community development make them an ideal partner for this initiative, ensuring that the project will be managed effectively and deliver the intended benefits to our community.

Through this project, we aim to make homeownership more accessible for first-time buyers in Pinole, create safer and more sustainable living environments, and address the broader challenges of housing affordability and equity in the Bay Area. The Partnership for the Bay's Future Policy Fund's support will be instrumental in helping us realize these goals.

We are confident that the City of Pinole's proposed project aligns closely with the mission of the Partnership for the Bay's Future and will serve as a model for other communities striving to address similar challenges. We respectfully request your consideration of our application and look forward to the opportunity to collaborate with your organization in creating a more equitable and sustainable future for the residents of Pinole.

Sincerely,

Maureen Toms
Mayor
City of Pinole

Social Impact Bonds for Housing Revitalization: A Case Study in Richmond, California

A Unique Approach to Brownfield Revitalization

Leveraging private capital for social good

The City of Richmond, California and the Richmond Community Foundation (RCF Connects) developed a unique approach to address significant challenges with blighted properties and barriers to local home ownership. The city and RCF Connects established a new social impact bond that uses private capital to fund the rehabilitation of abandoned properties in the Richmond area. In addition, the city and RCF Connects leveraged EPA Brownfields Assessment and Cleanup grants to address some of the city's most challenging residential properties. Since the project began in 2015, RCF Connects has rehabilitated and sold dozens of affordable homes to first time homebuyers, facilitated millions of dollars of local spending, and attracted new investments to continue the organization's housing work. This case study shares the city's and RCF Connects' approach and suggests how other communities can replicate their efforts.



Social Impact Bond

A social impact bond is a financial mechanism where the private sector provides investment funds to the public sector for social benefit. Well-performing social impact bonds are attractive to local banks because of Community Reinvestment Act requirements.

A Step-by-Step Guide on How to Set Up a Social Impact Bond-Funded Revitalization Program

1	2	3	4	5	6	7
Establish a city ordinance that outlines the social impact bond's parameters. A formalized ordinance will guide the actions of all partners involved and establish a legal connection between the organization and the city.	Clearly outline project partners' roles. A memorandum of understanding, paired with a city ordinance, should create a common set of metrics for success and define the role of each partner, establishing a clear project vision.	Seek out other sources of financial support, like EPA Brownfields funding. Supplementing social impact bond funds with additional financial support will allow for maximum flexibility in selecting which properties to rehabilitate and what resources to apply. EPA resources can address brownfield properties that have sat idle for years.	Have a strategy for choosing which properties to rehabilitate. City and local neighborhood councils can help identify and prioritize properties .	Incorporate environmental sustainability principles into property rehabilitation. Professionally abating environmental issues and incorporating high-quality, energy-saving upgrades into renovations will create financially and environmentally sustainable properties.	Prioritize the sale of new homes to first time homebuyers. Owning a home gives individuals access to new avenues for building wealth and establishing themselves in a community. This priority is especially important for organizations whose mission involves environmental justice and opening doors for systemically disadvantaged communities.	Advertise achievements. Celebrate successes, acknowledge partners, and market the program to different audiences. Host events like key ceremonies to highlight accomplishments, conduct media and social media outreach, and market among trade groups and networks.

Creating a Structure for Success

Establish a clear ordinance and build on city partnerships

RCF Connects established a strong framework for their rehabilitation projects by working with the city to issue a social impact bond through a city ordinance. The ordinance and the associated Memorandum of Understanding set financial and social metrics for the work and defined each partner's role. In addition, they established a common vision for RCF Connects, the city, and the bond's investor (locally-based Mechanics Bank). The ordinance also guaranteed that the city would not be liable for the bonds.



New homeowners Anthony Caro and Mitzi Perez-Caro

*“I’m a homegrown educator, and I honestly didn’t think buying a home in Richmond was feasible. **This program shifted my thinking.**”*

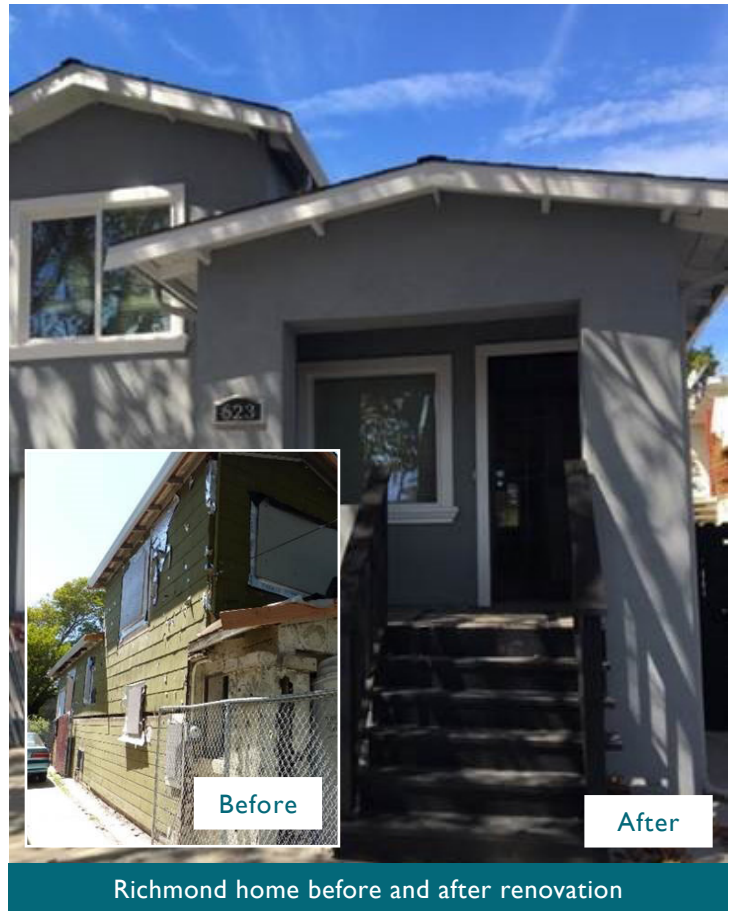
– Mitzi Perez-Caro

The long-standing relationship between RCF Connects and the city, developed through years of partnering on community development efforts, provided the foundation for this collaboration. Through partnering on the social impact bond, both entities leveraged their strengths for mutual benefits and success. The city can now expedite review of construction permits on social impact bond-funded properties. RCF Connects can obtain access to properties with liens from the city. These are just two examples of how the social impact bond has made addressing pervasive blight more efficient, resulting in the rehabilitation of homes, as well as increases in tax revenue and related benefits.

Improving Neighborhoods, One Property at a Time

Blighted brownfield properties become community assets

RCF Connects focused on properties that developers and homebuyers considered too risky, including properties with significant environmental challenges and those in the court system for tax delinquency and probate. Social impact bond funds allowed RCF Connects to access many blighted homes in the Richmond area. Before acquiring a potentially contaminated property, RCF Connects conducted a Phase I Environmental Site Assessment or [All Appropriate Inquiries](#). Some properties required additional assessment and cleanup due to historic contamination. After RCF Connects identified certain properties as “[brownfields](#),” they worked with EPA and the city to use EPA Brownfields Assessment and Cleanup funding. This additional grant funding allowed RCF Connects to tackle some of the most environmentally challenging properties in the city. In this sense, EPA became another important partner—helping to ensure RCF Connects’ renovated properties were safe for new homeowners.



Richmond home before and after renovation

Local Spending, Local Impacts

Supporting community development by promoting economic activity

The results of the social impact bond partnership between RCF Connects and the city are tremendous. Their efforts produced considerable financial benefits for the community, including:



Over **\$6.5M** in local spending



Reduction of the city's code enforcement costs by **\$350,000** per year



Repayment of nearly **\$800,000** in code enforcement liens and property taxes



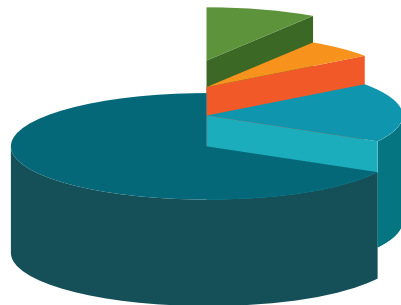
An annual increase of over **\$90,000** in property tax revenue



An estimated **\$697,000** per year to the local economy from new homeowners

Rehabilitation Funding Sources

	Social Impact Bond \$3,000,000
	EPA Assessment Grants \$700,000
	EPA Clean Up Funds \$264,000
	Other Grants \$400,000



Community Reinvestment Act

The Community Reinvestment Act encourages financial institutions to help meet the credit needs of the communities in which they work. The Act gives the financial institution incentive to balance the risks it undertakes as a social impact bond investor.

Prioritizing Equitable Development

Eco-friendly homes that build community wealth

RCF Connects prioritized sustainability and equity in their rehabilitation work to ensure people could buy, afford, and maintain renovated homes.

In partnership with the California Energy Commission, RCF Connects used state climate change mitigation funding to purchase energy-efficient appliances and make other environmentally conscious improvements to their homes. By partnering with EPA and using EPA Brownfields grants, RCF Connects also ensured the finished homes were contaminant-free.



Additionally, RCF Connects worked with SparkPoint Contra Costa, a local financial services collaborative partnership that helps individuals build a financially secure future. RCF Connects prioritized selling rehabilitated homes to graduates of SparkPoint Contra Costa's homebuyer program, connecting buyers with the program's newly renovated and energy efficient properties. RCF Connects also ensured the homes sold through their program would be lien-free, allowing homeowners to accrue value on their property and build wealth for themselves and their community.

Building Momentum, Building Wealth

Expand a successful program with new investments

The combination of pairing the city's social impact bond investments with EPA Brownfields grant-funded work has highlighted a new way to locally finance challenging redevelopment projects.

Mechanics Bank was motivated to become the social impact bond's initial investor because it helped them meet federal Community Reinvestment Act requirements. However, the compelling results of the social impact bond has led Mechanics Bank to extend their investment for another five years. RCF Connects' success has also attracted investment interest from new sources. Most recently, a group of donors contacted RCF Connects to build a Black homeownership fund. This fund will help members of the Black community purchase homes by providing up to \$15,000 for down payment assistance or to cover closing costs. The loan is only repaid when the home is sold or the mortgage is refinanced.



*“The [social impact bond] program can make a huge difference for a local community. It is mutually beneficial to the cities it supports and the banks that provide the financing. **In my opinion, there are few direct investment opportunities for a bank that can be as impactful as a social impact bond.**”*

– CJ Johnson, Partner, Ford Financial Fund (Majority Owner of Mechanics Bank)

Lessons Learned

Relationships matter—Establish partnerships with city government staff and the community



Cultivate champions. Advocate for those within city government who will coordinate across city departments to shepherd the ordinance through the system, make sure the bond is issued, and recommend other potential government resources such as grants.



Build connections. Interface with other relevant partners that will interact with the bond and the social impact bond program. Examples include county tax collectors/treasurers, probate court judges, investors, neighborhood organizations, insurance groups, and realtors.



Engage the community. Community members are a great resource for spreading the word about the program and demonstrating support to decision-makers, such as investors and city officials. Neighborhood councils can also help identify properties that need revitalization.

Metrics count—Develop a well-defined program vision and measure results



Stay on track. Identifying metrics for success will provide vital guidance for project work. RCF Connects' metrics include financial return on investment, improvement in community policing and safety, and the number of first-time homeowners who purchased renovated homes.



Measure return on investment. Tracking investment growth over time helped RCF Connects determine how much money to invest in individual properties. Keeping a record of the program's impacts on the community also gives investors an idea of how their money makes a difference and increases the likelihood of reinvestment.



For more information on RCF Connects and the City of Richmond, visit rcfconnects.org and www.ci.richmond.ca.us/2457/Code-Enforcement



CITY COUNCIL REPORT

10.A.

DATE: AUGUST 20, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: DAVID HANHAM, PLANNING MANAGER
SUBJECT: EXTENSION OF ENTITLEMENTS FOR PINOLE VISTA PROJECT 223-UNITS
1500 FITZGERALD, ROIC DEVELOPMENT

RECOMMENDATION

Staff recommends that the City Council hold a public hearing and adopt Resolution to extend the entitlements approved in Resolution 22-96 for the Pinole Vista Apartment Complex at 1500 Fitzgerald Drive (APN 426-391-010) through October 18, 2026.

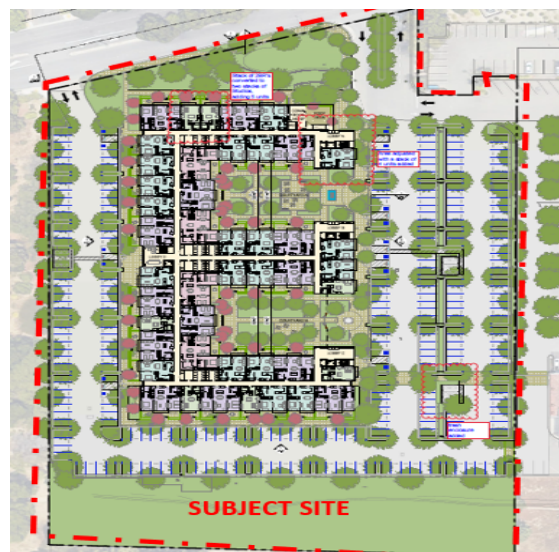
BACKGROUND

The property at 1500 Fitzgerald Drive is a vacant commercial retail building, previously occupied by Kmart and owned by ROIC Pinole Vista LLC. It has been empty since early 2019, with occasional seasonal uses like the Halloween Spirit store. The site is bordered by Fitzgerald Drive to the north, residential areas in El Sobrante to the south, Pinole Shopping Center to the east, and Best Buy (Pinole Vista II) to the west. Tenants of the Pinole Vista Shopping Center include Mountain Mike's Pizza, Lucky's Supermarket, Starbucks, and others. Refer to Figure 1 for an aerial view and Figure 2 for the proposed project layout.

Figure 1: Project Location



Figure 2: Proposed Project Layout



The project involves demolishing a 91,000-square-foot vacant retail building (formerly Kmart) at 1500

Fitzgerald Drive and constructing a five-story, 263,862-square-foot apartment building with 223 units. Approved by the Council on October 18, 2022 (see **Attachment B** for Resolution 2022-96), the project includes 13 very-low-income units, 14 low-income units, and 196 market-rate units, complying with the City's inclusionary housing requirements (PMC 17.32.020). The new building will have the same orientation as the former Kmart, with main entrances facing the existing shopping center. The front façade will feature 90-degree parking stalls instead of the original 45-degree layout. The rear of the building will include an additional row of parking and three entrances connecting to the front lobbies. The sides will have added landscaping, and a new passive open space will be created on the southern end. Landscaping will also be added to the front elevation and within the two parking rows. Refer to Figure 2 for the approved project layout, **Attachment C** for the full project overview, and Table 1 and Table 2 for application details and project milestones.

Table 1 – Summary of Project Entitlements Issued for Pinole Vista

Project Items	Entitlement Granted – October 18, 2022	Corresponding Resolution
Environmental Review	Adopt an Initial Study/Mitigation Negative Declaration and Mitigation Monitoring & Reporting Program.	Reso 2022-96
Design Review for Pinole Vista Apartment DR 21-12	Approval of a Design Review for the entire site.	*Reso 2022-96
Tree Removal Permit	To remove trees along Fitzgerald for inclusion or the new landscape plan for the project	Reso 2022-96
Note: The * represents the entitlements requesting to be extended		

Table 2 Chronological Order of Entitlements for Pinole Vista

Date	Item	Approving Body Decision
04/6/2021	Application was submitted for the Pinole Square Project	n/a
05/05/2021	AD-Hoc meeting	Notes were taken and given to the Developer to add to the design of the project.
07/29/2021	Virtual Community Meeting	n/a

07/14/2022	Ad-Hoc Meeting	Review of the plans was completed and the requests from the May 5, 2021, meeting were completed.
07/25/2022	Planning Commission Meeting	The Planning Commission adopted Resolution 22-05, recommending approval of the the Comprehensive Design Review, Environmental Determination, Tree Removal Permit, and Density Bonus to the City Council.
10/18/2022	City Council Meeting	The City Council adopted Resolution 22-96, approving the Comprehensive Design Review, Environmental Determination, Tree Removal Permit, and the Density Bonus
04/22/2024 to current	Applicant applies for Extension of Entitlements for the project located at 1500 Fitzgerald 223-unit Apartment Complex	n/a

REVIEW AND ANALYSIS

Framework for Extension

The Municipal Code provides a process for the expiration of entitlements. Section 17.10.100 (A) of the Pinole Municipal Code (PMC) states: *Unless a condition of approval or other provision of this title establishes a different time limit, any permit not exercised within one (1) year of approval shall expire and become void, except where an extension of time is approved in compliance with division C. below.*

Condition No. 6 in City Council Resolution No. 2022-96 (**Attachment B**) provides two (2) years for the applicant to "exercise" the entitlement. With a City Council approval date of October 18, 2022, the Pinole Vista entitlements will expire on October 18, 2024, unless the permit is "exercised," or an extension was requested and granted, by that date.

Section 17.10.100 (B) of the PMC provides information on what it means for a permit to be "exercised:" *The exercise of a permit occurs when the property owner has performed substantial work and incurred substantial liabilities in good faith reliance upon such permit(s). A permit may be otherwise exercised pursuant to a condition of the permit or corresponding legal agreement that specifies that other substantial efforts or expenditures constitutes exercise of the permit.*

For the Pinole Vista Apartment project, condition No. 6 in Resolution No. 2022-96 indicates that "entitlements shall be considered exercised when a Building Permit is issued for the apartment structure." A building permit for the apartment structure has not been applied for. Therefore, the entitlements granted on October 18, 2022 have not yet been exercised, and an extension is required in order to keep the permits valid.

Section 17.10.100 (C) of the PMC states: *The approval of an extension extends the expiration date for two (2) years from the original permit date. After this initial permit extension, a final one (1)-year extension of time may be granted pursuant to the same process as set forth in this section.*

The applicants of the Pinole Vista Apartment project have requested an initial permit extension of two-years, through October 18, 2026, to exercise their entitlements (i.e., Building Permit is issued).

Section 17.10.100 (C) of the PMC provides information regarding the process of extending

entitlements:

- 1. Process. The same approving authority that granted the original permit may extend the period within which the exercise of a permit must occur. Notice and/or public hearing shall be provided in the same manner as for the original permit. An application for extension shall be filed not less than thirty (30) days prior to the expiration date of the permit, along with appropriate fees and application submittal materials.*
- 2. Conditions. The permit, as extended, may be conditioned to comply with any development standards that may have been enacted since the permit was initially approved.*
- 3. Permit extension findings. The extension may be granted only when the designated approving authority finds that the original permit findings can be made and there are no changed circumstances or there has been diligent pursuit to exercise the permit that warrants such extension.*

The process for an extension requires that the review authority for an extension request is the original body who acted on the permit, and therefore, a request for an extension from the City Council is required. During consideration of the extension request, the permit may be conditioned to comply with any development standards that may have been enacted since the permit was initially approved. Additionally, to grant approval of the time extension, the Council must find that the original permit findings can be made and there are no changed circumstances or there has been diligent pursuit to exercise the permit that warrants such an extension.

Analysis of Request for Extension

The applicant submitted materials for a formal request for an extension of the entitlements on April 22, 2024 (**Attachment D**). The request indicates market conditions have prohibited the Project from moving forward at this time. These conditions include "abnormally high interest rates, extremely high construction costs, lack of developer interest in a project with a labor union agreement, and rent escalation not matching development cost escalation".

The Council can approve the extension based on the finding of fact that the original permit findings can be made and no changed circumstances to the Project. Staff supports the Applicant's request for an extension. While the delays in this project are unfortunate, it is not uncommon for projects of all types and sizes to have suffered delays during the last two years as a result of the COVID-19 pandemic and related impacts, such as supply chain disruptions and/or difficulty with financing. The applicant has stated that despite these challenges, they remain "committed to the completion of the Project. An extension will result in the best chance of much-needed housing being built at the site."

FISCAL IMPACT

All permitting costs are borne by the applicant. Approving the extension will not have a direct negative fiscal impact on the City, and in fact, the project could lead to indirect fiscal benefits for Pinole if extended and completed, including:

- Increased property tax revenue from redevelopment and improvements.
- Potential increase in sales tax revenue from up to 600 new residents living near the shopping center and from construction activities during the 2-4 year build-out, which could boost local spending at restaurants, grocery stores, and personal services.

ATTACHMENTS

- A. Resolution
- B. 2022-96 CC Resolution
- C. Approved Plans
- D. Extension Request

RESOLUTION NO. 2024-XX

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PINOLE APPROVING A TWO-YEAR EXTENSION OF THE ENTITLEMENTS ADOPTED VIA CITY COUNCIL RESOLUTION 2022-96 FOR THE PINOLE VISTA APARTMENT COMPLEX PROJECT LOCATED AT 1500 FITZGERALD (APN: 426-391-010)

WHEREAS, ROIC LP, c/o Metrovation/Chris Cole Inc., (Applicant) filed an application with the City of Pinole for a Comprehensive Design Review, for the purpose of constructing 223 apartments housing units and in accordance with Title 17, of the Pinole Municipal Code (the “Project”); and

WHEREAS, the Project site is located on the south side of Fitzgerald Drive on a property identified as APNs 426-391-010; and

WHEREAS the Project site has a General Plan Land Use Designation of Sub Service Area (SSA) and has a Specific Plan Land Use designation and Zoning designation of SSA/Appian Way Corridor/Commercial Mixed Use (CMU); and

WHEREAS, a new multifamily residential development is a permitted use on the Project Site subject to review and approval of a Comprehensive Design Review application; and

WHEREAS, the Applicant has proposed 15% affordability for the units in the Project and has requested a density bonus as permitted by State Law, including concessions and waivers; and

WHEREAS, the City Council on October 18, 2022, adopted Resolution 2022-96 approving a Comprehensive Design Review, a Density Bonus with concessions, and an Environmental Determination for the Pinole Vista Project; and

WHEREAS, Condition No. 6 in City Council Resolution No. 2022-96 provides two (2) years for the applicant to exercise the entitlement and that entitlements shall be considered exercised when a Building Permit is issued for the apartment structure; and

WHEREAS, ROIC requested an extension for all of the entitlements that were approved on October 18, 2022 indicating among other challenges, that there are market conditions that have prevented the entitlements from being exercised, including cost escalations in financing and construction materials and labor; and

WHEREAS, in compliance with California Environmental Quality Act (CEQA), the City Council adopted, pursuant to Resolution No. 2022-96 a Notice of Exemption (NOE) which are hereby incorporated by reference; and

WHEREAS, no further environmental review is necessary for the project since the scope of the project has not changed or been altered since the previous adoption of the NOE; and

WHEREAS, a notice of the public hearing to consider the proposed extension was distributed to all property owners within 1,500 feet of the project site and a notice was published in the August 9, 2024, edition of the West County Times; and

WHEREAS, the City Council has held a duly noticed public hearing considered all public comments received, the presentation by City staff, the staff report, and all other pertinent documents regarding the proposed request.

NOW THEREFORE, BE IT RESOLVED, that the above recitals are true and correct and made part of this resolution.

BE IT FURTHER RESOLVED that the City Council of the City of Pinole grants an extension of the entitlements of the Pinole Vista Apartment Complex project, as contained in City Council Resolution No. 2022-96, for two (2) years, through October 18, 2026, and makes the following findings:

Section 1. The original permit findings, as made in City Council Resolution No 2022-96 can still be made and there have been no changed circumstances which prevents the City Council from making such findings again.

Section 2. The Applicant has diligently, under current circumstances, pursued exercising the permits granted by City Council Resolution No. 2022-96 and an extension of those permits is warranted.

BE IT FURTHER RESOLVED that the conditions of approval for City Council Resolution No. 2022-96 shall remain in full force and effect.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Pinole held on the **20th** day of **August 2024** by the following vote:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

I, hereby certify that the foregoing resolution was regularly introduced, passed, and adopted on the **20th day of August 2024**

Heather Bell CMC
City Clerk

**RESOLUTION NO. 2022-96
WITH EXHIBIT A: CONDITIONS OF APPROVAL**

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PINOLE,
COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA, APPROVING A
COMPREHENSIVE DESIGN REVIEW (DR21-12), TREE REMOVAL PERMIT, AND
DENSITY BONUS REQUEST TO CONSTRUCT A 223 APARTMENT COMPLEX
LOCATED AT 1500 FITZGERALD DRIVE (APN 426-391-010) AND FINDING THE
PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

WHEREAS, ROIC LP, c/o Metrovation/Chris Cole Inc., (Applicant) filed an application with the City of Pinole for a Comprehensive Design Review, for the purpose of constructing 223 apartments housing units and in accordance with Title 17, of the Pinole Municipal Code (the "Project"); and

WHEREAS, the Project site is located on the south side of Fitzgerald Drive on a property identified as APNs 426-391-010); and

WHEREAS, the Project site has a General Plan Land Use Designation of Sub Service Area (SSA) and has a Specific Plan Land Use designation and Zoning designation of SSA/Appian Way Corridor/Commercial Mixed Use (CMU); and

WHEREAS, a new multifamily residential development is a permitted use on the Project Site subject to review and approval of a Comprehensive Design Review application; and

WHEREAS, the Applicant has proposed 15% affordability for the units in the Project and has requested a density bonus as permitted by State Law, including concessions and waivers; and

WHEREAS, this Project successfully implements numerous policies of the Community Character, Land Use and Economic, Housing, Circulation, Health and Safety and Sustainability Elements of the General Plan; and

WHEREAS, the Applicant has applied for concessions under the Density Bonus Law; and

WHEREAS, PMC Section 17.38.080 provides that whenever a project is requesting concessions under the Density Bonus Law, the City Council is the decision-making authority for all required permits for the project; and

WHEREAS, the Planning Commission reviewed the proposed Project on July 25, 2022, and after a notice public hearing, voted unanimously to recommend approval to

the City Council; and

WHEREAS, City of Pinole General Plan and Three Corridors Specific Plan were approved, and the Environmental Impact Report (SCH Number 2009022057) was certified on October 20, 2010, by Resolution Number 2010-88, and are hereby incorporated by reference; and

WHEREAS, in compliance with California Environmental Quality Act (CEQA), the City prepared a CEQA Analysis; and

WHEREAS, the CEQA Analysis uses streamlining provisions in accordance with CEQA Guidelines 15168(c)(2) and 15183 for consistency with the General Plan and Three Corridors Specific Plan and the certified Environmental Impact Report (EIR), as well as the categorical exemption Class 32, set forth in CEQA Guidelines Section 15332; and

WHEREAS, the CEQA Analysis identified environmental conditions of approval, which ensure implementation of applicable mitigation measures and policies set forth in the General Plan, Three Corridors Specific Plan and the corresponding EIR, and have been reviewed and agreed to by the project applicant, and the environmental conditions of approval have been included in the Conditions of Approval for the Project (attached as Exhibit A hereto); and

WHEREAS, the City Council has reviewed the CEQA analysis contained in Attachment E, Exhibit B of the City Council staff report for this Project dated October 18, 2022; and

WHEREAS, the City Council has considered the Project in light of the items listed in Municipal Code section 17.12.150(H); and

WHEREAS, the City Council held a duly noticed public hearing on October 18, 2022, and considered all public comments received, the presentation by City staff, the staff report and exhibits, and all other pertinent documents regarding the proposed request.

WHEREAS, a notice of public hearing was distributed to all property owners within 1500 feet of the Project site and a notice was published in the October 7, 2022, edition of the West County Times; and

NOW THEREFORE, BE IT RESOLVED, that the above recitals are true and correct and made part of this resolution.

BE IT FURTHER RESOLVED that the Project is consistent with the programmatic

EIR previously certified by the City for the Three Corridors Specific Plan and the project is an infill development project, and therefore the Project exempt from further environmental review under the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines Section 15332 (Class 32-Infill Development Projects) and pursuant to Government Code section 65457 and CEQA Guidelines Section 15182 (Specific Plan Consistency) as further described in the CEQA analysis contained in Attachment C, Exhibit B to the staff report dated October 18, 2022.

BE IT FURTHER RESOLVED that the City Council of the City of Pinole hereby approves DR 21-12, and the related Density Bonus Requests, subject to the Conditions of Approval, applicable to the entire Project, attached as Exhibit A to this Resolution, and hereby makes the following findings, for the reasons provided in the Planning Commission Staff Report dated July 25, 2022, and City Council Staff report dated October 18, 2022 and incorporated by reference:

Findings

1. The proposed project is consistent with the objectives of the general plan and complies with applicable zoning regulations, planned development, master plan or specific plan provisions, improvement standards, and other applicable standards and regulations adopted by the city.
2. The proposed project will not create conflicts with vehicular, bicycle, or pedestrian transportation modes of circulation.
3. The site layout (orientation and placement of buildings and parking areas), as well as the landscaping, lighting, and other development features, are compatible with and complement the existing surrounding environment and ultimate character of the area under the general plan and the Three Corridors Specific Plan; and
4. Qualifying single-family residential, multi-family residential, and residential mixed-use projects shall comply with all relevant standards and guidelines in the city's currently adopted design guidelines for residential development.

BE IT FURTHER RESOLVED that the City Council of the City of Pinole hereby approves a Tree Removal Permit for the Project, subject to the Applicant satisfying the applicable Conditions of Approval and requirements of Pinole Municipal Code Chapter 17.96.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Pinole held on the 18th day of October 2022, by the following vote:

AYES:	COUNCILMEMBERS: Martínez-Rubin, Murphy, Salimi, Tave
NOES:	COUNCILMEMBERS: Toms
ABSENT:	COUNCILMEMBERS: None
ABSTAIN:	COUNCILMEMBERS: None

I hereby certify that the foregoing resolution was regularly introduced, passed, and adopted on the 18th day of October 2022



Heather Bell, CMC
City Clerk





Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
<u>General Conditions</u>				
1.	CONVENANT – The owner shall hold harmless the City, its Council Members, its Planning Commission, officers, agents, employees, and representatives from liability for any award, damages, costs, and fees incurred by the City and/or awarded to any plaintiff in an action challenging the validity of this permit or any environmental or other documentation related to approval of this permit. The owner further agrees to provide a defense for the city in any such action.	Ongoing	Community Development Department/ Public Works Department	
2.	APPROVAL OF CONDITIONS ON CONSTRUCTION PLANS – These Conditions of Approval shall be included or referenced on the coversheet of the project improvement plan and building construction plans.	Prior to issuance of Building Permit	Community Development Department	
3.	OCCUPANCY PERMITS – Occupancy permits shall not be granted until construction is completed and finalized in accordance with the approved plans and conditions of approval required by the City, or a bond has been posted to cover all costs of the unfinished work as agreed to by the Community Development Department.	Prior to Occupancy Permits	Community Development Department	
4.	GENERAL – All public improvements shall be made in accordance with the latest adopted Contra Costa County Standard Drawings and Specifications. All work	During Construction	Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	shall conform to the applicable City ordinances. Good housekeeping practices shall be observed at all times during the course of construction. The storing of goods and materials on the sidewalk and/or street will not be allowed unless a special permit is issued. The owner's representative in charge shall be at the job site during all working hours.			
5.	<u>PERMITS REQUIRED BY OTHER AGENCIES</u> – The applicant shall obtain all permits that may be required by one or more federal, State, or local agency, service provider, or easement holder including but not limited to the following: State Department of Fish and Wildlife, Caltrans. Army Corps of Engineers, Bay Area Air Quality Management District, Kinder Morgan, EBMUD, and PG&E, County Flood Control and Water Conservation District, County Environmental Health, and the West Contra Costa Unified School District. If project is within jurisdiction of any of these agencies, verification of permit or waiver of permit must be given to the Community Development Department prior to issuance of any City permits. If the City is required to be party to the permit and an application and fee is required, the applicant shall reimburse the City for its cost. A Notice of Intent must be issued by the Regional Water Quality Control Board before a permit can be issued and a Notice of Termination must be issued at the end of the project by the Regional Water Quality Control Board before a Certificate of Occupancy is issued.	Prior to Issuance of Permits	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
6.	EXERCISE OF ENTITLEMENTS – The applicant has two (2) years to exercise the entitlement. Entitlements shall be considered exercised when a Building Permit is issued for the apartment structure. Requests for extensions shall be in accordance with Section 17.10.100.	Prior to issuance of Building Permit	Community Development Department	
<u>Public Works Conditions</u>				
7.	PERMITS, BONDS, AND INSURANCE – The applicant shall obtain an encroachment permit, posting the required bonds and insurance, for all work to be done in the City's right-of-way. This encroachment permit shall be obtained prior to the issuance of a building permit and prior to any work being done in the City's right-of-way.	Prior to issuance of Encroachment Permits	Public Works Department	
8.	SITE DEVELOPMENT – The applicant shall submit a site grading and drainage plan with all supporting data, including hydraulic calculations. The plan shall be prepared by a registered Civil Engineer and be approved by the Public Works Department prior to the issuance of any City permits pursuant to PMC §15.36.	Prior to issuance of Permits	Public Works Department	
9.	REFUSE AREA AND DESIGN – The Project shall provide for service by the City's contracted waste collection hauler. The area and access to trash, recycling, and green waste containers shall be approved in advance by the City. The project shall provide for service by Republic Services. The area and access to trash,	Prior to the issuance of Building Permit	Public Works Department	

As Reviewed by City Council
October 18, 2022

3 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	recycling, and green waste containers shall be approved in advance by Republic Services.			
10.	<u>EROSION CONTROL PLAN</u> – The applicant shall submit an erosion control plan in accordance with the City's Grading Ordinance (PMC §15.36.190) when grading is performed during winter season (October 1 through April 15). For all sites over one acre, in accordance with the City's Erosion Control Ordinance (PMC §08.20) the applicant shall submit: a. Storm Water Pollution Prevention Plan (SWPPP) b. Storm Water Control Plan (SCP) Certified by an Architect or Engineer. c. Operation and Maintenance.	Prior to issuance of Permits	Public Works Department	
11.	<u>PARKING LOTS</u> – The applicant shall submit plans for parking lots showing proper grading, drainage, and conformance to City engineering standards. The plans shall be prepared by a registered Civil Engineer and be approved by the Public Works Director.	Prior to issuance of Permits	Public Works Department	
12.	<u>MATERIAL HAULING</u> –The applicant shall submit a proposed material hauling route and schedule. Said submittal shall be approved by the City Engineer prior to issuance of a building or site development permit. All material hauling activities including but not limited to, adherence to approved route, hours of operation, dust control and street maintenance shall be the responsibility of the	Prior to issuance of Permits	Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	applicant (as per Section 15.36.080 of the PMC). Violation of such may be cause for suspension of work.			
13.	<u>TREATMENT PLANT CAPACITY CONTRIBUTION</u> – The applicant shall pay sewer connection fees pursuant to PMC § 13.05.420 or such similar fees imposed by the West County Wastewater District, if applicable.	Prior to Issuance of Building Permits	Public Works Department	
14.	<u>SEWER USE FEES</u> – The applicant shall pay sewer use fees pursuant to PMC §13.05.430, or such similar fees imposed by the West County Wastewater District, if applicable.	Prior to issuance of Building Permits	Public Works Department	
15.	<u>CHARGES FOR PUBLIC WORKS</u> – The applicant shall deposit funds with the City to pay for all engineering, inspection and survey services that may be required during construction of the project in accord with PMC §13.05.430	Prior to issuance of Permits	Public Works Department	
16.	<u>INSPECTIONS</u> – The applicant shall notify the Public Works Department at least forty-eight (48) hours prior to starting any work pertaining to on-site drainage facilities, grading, or paving; all work in the City's right-of-way as per Section 15.36.230 of the Municipal Code.	Prior to Issuance of Permits	Public Works Department	
17.	<u>UNDERGROUND UTILITIES</u> – <u>The applicant must agree to install all utility service, including telephone, electric power, and other communications lines underground as per Chapter 13.16 of the Municipal Code. An encroachment</u>	Prior to issuance of Building Permits	Public Works Department	

As Reviewed by City Council
October 18, 2022

5 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	permit shall be secured prior to any work being done in the City's Right-of-Way and depending on the extent of the work, facilities that do not meet current ADA standards may be required to be upgraded. The applicant must agree to install all utility service, including telephone, electric power, and other communications lines underground as per Chapter 13.16 of the Municipal Code.			
18.	STORM DRAINAGE STUDY – The applicant shall submit a completed storm drainage study of the proposed project showing amount of run-off, and existing and proposed drainage structure capacities. This study shall be subject to review and approval by the City Engineer.	Prior to issuance of Building Permits	Public Works Department	
19.	DRAINAGE PLANS - The applicant shall prepare a construction drainage plan and final drainage plan for Public Works Department review and approval. The construction drainage plan will show how drainage will be handled during construction. The final drainage plan will show how drainage will be handled after construction is complete. The final plans shall demonstrate capacity to manage stormwater runoff. Site design shall avoid drainage of water from one property onto another property and shall be subject to approval by the City Engineer.	Prior to issuance of Building Permit	Public Works Department	
20.	SIDEWALK, CURB AND GUTTER REPAIR - The applicant shall repair and replace	Prior to	Public Works	

As Reviewed by City Council
October 18, 2022

6 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	to existing City standards, any sidewalk, curb, and gutter, and roadways that <u>are connected to the scope of this project</u> that is damaged now or during construction of this project. A field visit shall be scheduled with Community Development Department and Public Works Department staff prior to the issuance of any construction permits to document pre-construction conditions in the field.	Department	
21.	<u>ADA CURB RAMPS</u> – The applicant shall construct ADA curb ramp(s) in accordance with applicable California Building Code and ADA requirements. <u>WHEELCHAIR RAMP(S)</u> – The applicant shall construct all wheelchair ramp(s) in accordance with applicable California Building Code and ADA requirements.	Community Development Department/ Public Works Department	
22.	<u>GRADING AND DEMOLITION PLANS</u> – The applicant shall obtain City approval for the project grading and demolition plans prior to issuance of building permits.	Public Works Department	
23.	<u>CERTIFIED GRADED PAD</u> – A California-Licensed Engineer shall certify that the graded construction pads have been adequately compacted and designed to support the proposed buildings.	Public Works Department	

As Reviewed by City Council
October 18, 2022

7 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
24.	<u>CONSTRUCTION SITE INFORMATION</u> – A construction sign shall be installed on at the construction site that has contains contact person's name, mobile phone number, and email address shall be posted on the project site during the duration of construction. The property address shall be clearly marked during the construction process.	Ongoing through Construction	Public Works Department	
25.	<u>DEBRIS AND SOIL REMOVAL</u> All building debris shall be disposed of outside the City of Pinole to a legal dump site. <u>The applicant shall provide the Public Works Department with results of the excavated soil testing. If the excavated soil is acceptable fill material, the applicant will offer the City the first right of refusal to haul excavated soil at no cost to the City to a location within City Limits determined by the Public Works Director.</u> <u>DEBRIS REMOVAL</u> – All building debris shall be disposed of outside the City of Pinole to a legal dump site.	During Construction	Community Development Department	
26.	<u>CONSTRUCTION ACTIVITIES</u> – The following provisions shall be followed during site excavation, public works, and building construction activities for the project: a. Work is restricted to between 7:00A.M. and 5:00 P.M. on weekdays. Work is restricted on federal holidays. Work is allowed on holidays occurring on weekdays that are recognized by the City of Pinole, but not acknowledged federally which include Cesar Chavez's Birthday and the Day After Thanksgiving, but no inspections will be performed	During Construction	Community Development Department	

As Reviewed by City Council
October 18, 2022

8 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	Timing/ Implementation	Monitoring Department/ Division	Verification (date and Signature)
	a-b. When Pinole Middle School/West County Mandarin School (1575 Mann Drive) is in session, all construction related traffic on Appian Way shall be prohibited during designated pick-up and drop-off hours. c-b. Earth haul and materials delivery to and from the site will be prohibited between the hours of 7:00 - 9:00 A.M. and 3:00 - 6:00 P.M. e-d. All construction vehicles should be properly maintained and equipped with exhaust mufflers and meet State and Federal standards. e-d. Newly disturbed soil surfaces shall be watered down regularly by a water truck maintained on site during all day light hours and construction grading activity shall be discontinued in wind conditions greater than 10 miles per hour. e-f. Construction activities shall be scheduled so that paving and foundation placement begin immediately upon completion of grading operation. f-g. All excavated materials shall be covered with a tarp during transit to and from the site.		
27.	CONSTRUCTION WASTE MANAGEMENT PLAN – The Applicant shall submit to the Community Development Department a pre-construction waste	Community Development	

As Reviewed by City Council
October 18, 2022

9 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	management plan prior to the issuance of any construction permit to satisfy the CALGreen Building Code requirements.		Department	
28.	CONSTRUCTION WASTE MANAGEMENT REPORT – DEBRIS REMOVAL – The applicant shall complete post-construction waste management report for review and approval by the Community Development Department prior to final inspection to satisfy CALGreen Building Code Requirements. All building debris shall be properly disposed of outside the City of Pinole.	Prior to Issuance of Permits	Community Development Department	
29.	PRE-CONSTRUCTION MEETING – The applicant's construction contractor(s) shall attend a pre-construction meeting as needed with City Staff to coordinate satisfaction of conditions of approval during construction.	Prior to Issuance of Permits	Community Development s Department/ Public Works Department	
30.	INSTALLATION OF LIGHTED CROSSWALK – The applicant shall install a lighted crosswalk at the Fitzgerald Drive and the main entrance to the apartment complex IMPROVEMENTS TO FITZGERALD DRIVE – The applicant shall make the following improvements to Fitzgerald Drive:	Prior to the issuance of Occupancy Permit	Community Development s Department/ Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	a. <u>Install a pedestrian activated Rectangular Reflective Flashing Beacon (RRFB) on the north- and south side of Intersection 2 of the Development Plan dated 9/13/2022.</u> b. <u>Install a pedestrian refuge island on Fitzgerald Avenue and ADA ramps for sidewalk access at the crosswalk running north and south of Fitzgerald Drive at Intersection 2 of the development plan dated 9/13/2022.</u> c. <u>Submit Plans making Intersection 1 (driveway closest to Best Buy) a right-in and right-out ingress and egress. Prior to installation of improvements, all plans shall be reviewed and approved by the City Engineer.</u> d. <u>Install ADA ramps for sidewalk access running east/west along Fitzgerald Drive at intersection 1 and 2 of the development plan dated 9/13/2022.</u> e. <u>The applicant shall submit an Engineer Estimate for right in and right out improvements at Intersection 2 of the development plan dated 9/13/2022 to be reviewed and approved by the City Engineer. The applicant shall submit bond for the cost of improvements.</u> a-f. <u>The applicant shall monitor traffic conditions of Intersection 2 for one year submitting quarterly reports to the City once the project reaches 80 percent of capacity or after two years from the Certificate of Occupancy which ever come first.</u>		
31.	SOILS REPORT – A soils A soils report containing all design recommendations of	Community	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	footings, retaining walls and any other information pertinent to the soil condition shall be required. The soils report shall be prepared by a licensed soils engineer or geologist.	of Permits	Development s Department/ Public Works Department	
32.	<u>PRE-CONSTRUCTION MEETING</u> – The applicant’s construction contractor(s) shall attend a pre-construction meeting as needed with City Staff to coordinate satisfaction of conditions of approval during construction.	Prior to Issuance of Permits	Community Development s Department/ Public Works Department	
33.	<u>STANDARD DRAWINGS FOR PUBLIC IMPROVEMENT</u> – All public improvements shall be made in accordance with the latest adopted Contra Costa County Standard Drawings and Specifications. All work shall conform to the applicable City Ordinances. Best Construction Management Practices shall be observed at all times during the course or construction	Prior to Issuance of Permits	Public Works Department	
34.	<u>CONSTRUCTION MANAGEMENT</u> – The storing of goods and materials on the sidewalk and/or street will not be allowed unless a special permit is issued. The project site shall be kept free of litter and all construction equipment and materials will be secured at the end of each construction day. The applicant’s representative in charge shall be at the job site during all working hours. The public streets adjacent to construction activity shall be maintained in a clean and	Prior to Issuance of Permits	Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	orderly condition to the satisfaction of the Public Works Director.			
35.	PUBLIC WORKS INSPECTIONS —The applicant shall notify the Public Works Department at least forty-eight (48) hours prior to the starting any work pertaining to on-site drainage facilities, grading, or paving, as well as any work in the City's Right-of-Way as per Section 15.36.230 of the PMC. The applicant shall arrange all inspections with the Public Works Inspector.	During Construction	Public Works Department	
<u>Community Development Conditions</u>				
36.	AFFORDABLE HOUSING AND DENSITY BONUS AGREEMENT – The applicant shall execute the Affordable Housing Regulatory Agreement, Density Bonus Agreement and Declaration of Restrictive Covenants and record the documents in the Official Records of Contra Costa County.	Prior to Occupancy Permit	Community Development Department	
37.	UTILITIES – All electrical, telephone, water, C.A.T.V. and similar utility services which provide service to the subject building shall be installed underground. All transformers, meter boxes, etc., shall be screened from view wherever possible.	Prior to Occupancy Permits	Community Development/ Public Works Department	
38.	EXTERIOR MATERIAL AND COLORS – All exterior materials and colors shall	Ongoing	Community	

As Reviewed by City Council
October 18, 2022

13 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	reflect those in the plan set approved by the Planning Commission. Once installed, all improvements are to be maintained in accordance with the approved plans. Any changes which affect the exterior character shall be resubmitted to the Community Development Department for review and approval. Minor changes may be approved by the Planning Manager. Any changes determined by the Community Development Department to be significant may be referred to the Planning Commission after conferring with the Chair of the Planning Commission.		Development Department	
39.	<u>PARKING MANAGEMENT PLAN</u> – The applicant shall submit a final parking management plan for review and approval by the Planning Manager.	Prior to Issuance of Building Permit	Community Development Department	
40.	<u>PARKING</u> – The applicant shall demonstrate that the parking requirements under Chapter 17.48 of the PMC and any other building code requires for the proposed development have been fulfilled. Each parking space designated for compact cars shall be identified with a pavement marking reading “Compact Only”, or its equivalent. All parking spaces intended to satisfy on-site parking requirements shall be located within the project site boundaries. Additional parking may be used to satisfy on-site parking requirements if project site boundaries change as a result of a recorded lot line adjustment or a shared parking agreement with an abutting property owner is recorded. In no case shall a shared parking agreement remove required parking for the Shopping Center.	Prior to Issuance of Building Permit	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
41.	<u>PARKING OCCUPANCY SURVEY</u> – A parking occupancy survey shall be conducted on the property when 100 percent of the residential units is occupied to document the actual parking characteristics of the project and if necessary, determine changes to the strategies implemented at the site, including such as adjustments to the use of the parking spaces with the existing shopping center, to ensure that the parking demand generated by the site can be met. The survey shall be provided to the City and shall include any proposed recommendation changes to meet demand, if needed.	At 100 percent of Residential	Community Development Department	
42.	<u>PARKING EVALUATION</u> – The owner shall on an annual basis evaluated parking demand and the number of offsite vehicular spaces needed. In the case of a deficit, the owner shall employ innovative solutions to reduce parking demand (such as e-bike sharing facilities) and negotiate with offsite property owners to adjust the number of spaces to meet parking demand. A written report detailing the parking evaluation shall be submitted to the Planning Manager on an annual basis. The Planning Manager shall determine whether the number of offsite parking spaces should be adjusted based on the annual parking evaluation and any further information that may be needed.	Ongoing	Community Development Department	
43.	<u>LIGHTING</u> – The plan set shall include final lighting fixtures proposed on site. Lighting shall be consistent with the illumination levels and requirements under Pinole Municipal Code Chapter 17.46, or as otherwise required for the Building	Prior to Issuance of Occupancy Permit	Community Development Department	

As Reviewed by City Council
October 18, 2022

15 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	Division and Police Department for code compliance and safety. Any lighting used shall be so arranged as to reflect the light away from adjoining properties or public streets.			
44.	<u>MECHANICAL EQUIPMENT</u> – All mechanical devices and their component parts, such as air conditioners, evaporative coolers, exhaust fans, or similar equipment located wholly or partially on the roof or wall shall be screened from view. All wall mounted heating units or air conditioners shall be flush-mounted or screened from view.	During Construction	Community Development Department	
45.	<u>PARKING LOT LIGHTING</u> – Lights shall be provided in the parking area. All lighting used to illuminate such parking facilities shall be approved by the Planning Commission. Any lighting used shall be so arranged as to reflect the light away from adjoining residential areas or public streets. Lighting shall be installed with the intent to provide only as much light as is necessary for public safety and shall satisfy the requirements of Chapter 17.46 of the PMC.	Prior to Issuance of Occupancy Permit	Community Development Department	
46.	<u>VENTS, GUTTERS, AND FLASHING, ETC.</u> – All vents, gutters, downspout, flashings, electrical conduits, etc., shall be painted to match the color of the adjacent surface.	Prior to Occupancy Permits	Community Development Department	
47.	<u>TRASH ENCLOSURES</u> – All trash enclosures shall be constructed of sturdy,	Prior to	Community	

As Reviewed by City Council
October 18, 2022

16 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>												
	opaque materials, which are in harmony with the architecture of the nearest building and shall meet applicable Contra Costa County Health Department and City requirements. Trash enclosures shall be covered.	Occupancy Permit	Development Department													
48.	<u>NOISE STANDARDS</u> - The noise standards established in the General Plan shall be applicable to all developments. These noise standards apply to exterior and are: <table><tr><td><u>RESIDENTIAL</u></td><td><u>COMMERCIAL</u></td><td><u>INDUSTRIAL</u></td></tr><tr><td>60 dBA (Day)</td><td>65dBA (Day & Eve)</td><td>75 dBA (All)</td></tr><tr><td>55 dBA (Eve)</td><td>60 dBA (Night)</td><td></td></tr><tr><td>50 dBA (Night)</td><td></td><td></td></tr></table> Day: 7 a.m. to 7 p.m.; Evening: 7 p.m. to 10 p.m.; Night: 10 p.m. to 7 a.m.	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>	60 dBA (Day)	65dBA (Day & Eve)	75 dBA (All)	55 dBA (Eve)	60 dBA (Night)		50 dBA (Night)			Ongoing	Community Development Department	
<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>														
60 dBA (Day)	65dBA (Day & Eve)	75 dBA (All)														
55 dBA (Eve)	60 dBA (Night)															
50 dBA (Night)																
49.	<u>SCHOOL, GROWTH AND PARK IMPACT FEES</u> – Prior to issuance of a building permit, the applicant shall pay all applicable school, growth (as per Chapter 3.20 of the Municipal Code) and park (as per Chapter 16.28 of the Municipal Code) impact fee.	Prior to Issuance of Building Permit	Community Development Department													
50.	<u>SUBREGIONAL TRANSPORTATION MITIGATION PROGRAM (STMP) FEE</u> – Prior to issuance of a building permit for new construction the applicant shall pay the applicable STMP fee, pursuant to PMC §16.30.	Prior to Issuance of Building Permit	Community Development Department													



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
51.	<u>DEVELOPMENT IMPACT FEE</u> – The applicant shall pay all applicable development impact fees prior to issuance of the building permit	Prior to issuance of Building Permit	Community Development Department	
52.	<u>COST ESTIMATE</u> – The applicant shall obtain a cost estimate of construction permitting, including plan check and impacts fees, prior to submitting an application for a building permit.	Prior to Submittal of a Building Permit	Community Development Department	
53.	<u>GEOTECHNICAL REPORT AND FOUNDATION DESIGN</u> – The project shall implement the recommendations of the Geotechnical Investigation prepared by Miller Pacific Engineering Group, November 1, 2021. The project shall avoid the use of driven piles for creation of a deep foundation system. Where there are no alternatives to the use of driven piles, the project may be subject to reconsideration by Planning Commission and revised project documentation to on potential impacts, as deemed necessary by the Community Development Director.	Prior to issuance of Building Permit	Community Development Department	
54.	<u>GENERAL LANDSCAPING REQUIREMENTS</u> - The Applicant shall prepare a detailed final landscape plan. The final landscaping plan shall be prepared by a landscape architect, registered in California, and shall be submitted to the Community Development Department for review and approval prior to the issuance of a building permit. The landscape plan shall comply with Chapter	Prior to issuance of Building Permit	Community Development Department	

As Reviewed by City Council
October 18, 2022

18 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
15.54 and Chapter 17.38 of the Municipal Code, be in compliance with Condition No. 63 and 64 and shall include the following: a. Sizes, species, locations of all plant materials. b. Location of all trees (6 inches in diameter or greater). c. Irrigation plan indicating all components of the irrigation system including sprinklers and other outlets, valves, backflow prevention devices, controllers, and piping. d. All trees to be a minimum of 15 gallon, double staked and all proposed shrubs on site shall be a minimum of 5 gallon. e. Native tree species shall be used to the maximum extent as possible in the planting of new trees, with any non-natives proposed supported with a statement by the landscape architect explaining the planting palette.			
55.	LANDSCAPING MAINTENANCE – The property owner shall ensure landscaping areas are maintained and that dead trees and vegetation shall be replaced.	Community Development Department	
56.	WATER EFFICIENT LANDSCAPE – The project shall demonstrate compliance with water efficient landscape requirements pursuant to Chapter 15.54 of the	Community Development Department	

As Reviewed by City Council
October 18, 2022

19 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	PMC for review with the building permit plans.	Permit	Department	
57.	<u>CONSTRUCTION FENCING PLAN</u> – The applicant shall prepare and submit a final fencing plan for the construction fencing for review and approval by the Community Development Director. All fencing for construction purposes shall be durable and remain in good throughout the life of the construction of the project.	Prior to Issuance of Building Permit	Community Development Department	
58.	<u>PERIMETER FENCING AND GATES PLAN</u> – The applicant shall prepare and submit a perimeter fencing and gating plan for review and approval by the Community Development Director in consultation with the Planning Commission Ad-Hoc Committee and the Pinole Police and Public Works Department. The perimeter fencing and gating for the project shall clearly delineate and separate the residential areas from the commercial shopping center, be at least 48 inches in height, constructed of attractive and high-quality materials and remain in place through the life of the residential building.	Prior to Issuance of Building Permit	Community Development Department	
59.	<u>PARKING LOT LANDSCAPE REQUIREMENTS</u> - All parking areas in excess of 30 stalls shall provide a minimum landscaped area of five feet in width where the facility adjoins a property line. The perimeter-landscaped strip may include any landscaped yard or landscaped area otherwise required and shall be continuous, except for required access to the site of to the parking. Interior landscaping within a parking lot containing 12 of more stalls shall include a minimum of one 15-gallon tree for each four parking spaces as per Section 17.24.050 (c) of the Municipal Code.	Prior to Issuance of Building Permit	Community Development Department	

As Reviewed by City Council
October 18, 2022

20 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
60.	LANDSCAPING CERTIFICATE OF COMPLETION – A Certificate of Completion shall be submitted by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor certifying that the landscape project has been installed per the approved Landscape Documentation Package.	Prior to Occupancy	Community Development Department	
61.	TREE REMOVAL – The applicant shall note the location of all mature trees (4 inches in diameter at breast height (measured 4.5 feet above natural grade) or greater) to be removed from the project site and submit a tree permit application prior to issuance of a building permit	Prior to the Issuance of Building Permit	Community Development Department	
62.	ARBORIST REPORT – The project shall comply with the recommendations in the Arborist Report, prepared by WRA Environmental Consultants, dated October 26, 2021, for tree protection and preservation guidelines.	Prior to Issuance of Building Permits	Community Development Department	
63.	STANDARD TREE REPLACEMENT REQUIREMENTS – All trees that are removed from the site shall be replaced in accordance with the replacement table for existing trees. Any non-protected tree, which is removed, that was shown to be preserved on the final landscaping plan shall be replaced at twice the rate indicated on the replacement table. STANDARD REPLACEMENT TABLE FOR EXISTING TREES	Prior to Occupancy Permits	Community Development Department	

As Reviewed by City Council
October 18, 2022

21 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	Timing/ Implementation	Monitoring Department/ Division	Verification (date and Signature)																									
<table><tr><th>Size of Tree to be removed (Trunk Diameter)</th><th>36 Inch Box</th><th>24 Inch Box</th><th>15 Gallon</th><th>5 Gallon</th></tr><tr><td>6" to 18"</td><td>1</td><td>2</td><td>10</td><td>15</td></tr><tr><td>18" to 24"</td><td>2</td><td>4</td><td>15</td><td>25</td></tr><tr><td>24" to 36"</td><td>3</td><td>6</td><td>20</td><td>45</td></tr><tr><td>36" & Over</td><td>4</td><td>8</td><td>30</td><td>60</td></tr></table> Numbers in replacement table refers to quantities to be used to replace each tree. Each tree container size number in the vertical column represents a 100% replacement value for an existing tree removed (size as noted). These numbers (columns) may be mixed as long as proportionate totals will equal 100%. For example: one 24" tree may be replaced with six 24" box trees or three 24" box trees plus ten 15-gallon trees or one 36" box tree plus four 24" box trees, etc.	Size of Tree to be removed (Trunk Diameter)	36 Inch Box	24 Inch Box	15 Gallon	5 Gallon	6" to 18"	1	2	10	15	18" to 24"	2	4	15	25	24" to 36"	3	6	20	45	36" & Over	4	8	30	60			
Size of Tree to be removed (Trunk Diameter)	36 Inch Box	24 Inch Box	15 Gallon	5 Gallon																								
6" to 18"	1	2	10	15																								
18" to 24"	2	4	15	25																								
24" to 36"	3	6	20	45																								
36" & Over	4	8	30	60																								
64.	PROTECTED TREE REPLACEMENT REQUIREMENTS - All trees designated as Protected trees pursuant to PMC Chapter 17.98, and which are approved for removal through a Tree Removal Permit issued by the City shall be replaced at a ratio of two replacement trees for each removed Protected tree and in compliance with the following:	Prior to the Issuance of Building Permit (tree removal plan)	Community Development Department																									



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	a) For each removed Protected tree, one 48-inch or 60-inch box tree, and one 36-inch box trees shall be planted as replacement trees. b) The species of replacement trees and exact planting location is subject to review and approval by the Community Development Director, in consultation with the Planning Commission Ad-Hoc Subcommittee. c) The species selection shall be drought-tolerant and native, shall complement the architectural design of structures on the site, and shall be suitable for the soil and climatic conditions specific to the site. d) A protected tree removal plan, pursuant to PMC Section 17.96.060.D, shall be submitted indicating which protected trees can be removed and shall be used by the Community Development Director to issue a protected tree removal permit in compliance with the action taken on the entitlements.	Prior to Occupancy Permits (installation of landscaping)		
65.	<u>CHILDREN'S PLAY AREA-</u> The applicant shall revise the plans to include an additional children's play space in one of the courtyards. The play space may be for active children's play, if space allows, or for passive play. The plans shall be reviewed for comment by the Planning Manager prior to submittal to the City.	Prior to the Issuance of Building Permit	<u>Community Development Department</u>	
66.	<u>CONFORMANCE WITH APPROVED PLANS</u> – All building permit drawings and subsequent construction shall substantially conform to the approved planning application drawings. Any modifications must be reviewed by the Planning Manager who shall determine whether the modification requires additional	Prior to Issuance of Building Permits	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	approval of the Planning Commission or City Council.			
67.	<u>MODIFICATION OF APPROVED PLANS</u> – Failure to obtain prior approval to modify the approved plans may result in a fine equal to double the original planning application permit fee and/or withholding of the occupancy permit until such time as the modification(s) to the plans has been reviewed by the Planning Commission or City Council.	Ongoing	Community Development Department	
68.	<u>VIOLATION/PENALTY</u> – Any person, firm or corporation, whether as principal, agent employee or otherwise, violating any of the provisions in Title 17 of the Municipal Code or any condition of an approval, permit or license granted pursuant to the provisions of this same title shall be deemed guilty of an infraction, punishable on the first offense by a fine not exceeding one hundred dollars, and on the second offense by a fine not exceeding two hundred dollars and on the third offense and subsequent violation by a fine not exceeding five hundred dollars and shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this title is committed, continued or permitted by such person, firm or corporation.	Ongoing	Community Development Department	
69.	<u>STREET ADDRESS ASSIGNMENT</u> – An Address Assignment Plan for the project shall be submitted for review and approval and shall be reflected in the	Prior to issuance of Building Permit	Community Development Department	

As Reviewed by City Council
October 18, 2022

24 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	submitted building plans.			
70.	<u>SITE MAINTENANCE</u> – The construction site shall be cleaned of garbage and debris on a daily basis and maintained in an orderly fashion. All construction equipment shall be secured at the end of each day of construction.	Ongoing through end of construction	Community Development Department	
<i>Building Conditions</i>				
71.	<u>BUILDING CODES</u> – At time of issuance of building permits, the building shall comply with Chapter 15 of the Municipal Code and State Title 24 and the U.S. Americans with Disabilities Act.	Prior to issuance of Building Permit	Building Division	
72.	<u>INSPECTIONS</u> – The applicant shall arrange all inspections with the Building Division, Fire Department, and Public Works Department. All Building Division inspection requests shall be made at least 24 hours in advance.	Prior to issuance of Occupancy Permits	Building Division	
73.	<u>GEOTECHNICAL/SOILS REPORT</u> - A geotechnical/soils report containing all	Prior to issuance	Community	

As Reviewed by City Council
October 18, 2022

25 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 2-1-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	design recommendations of footings, retaining walls and any other information pertinent to the soil condition shall be required and submitted with the permit application. The soils report shall be prepared by a licensed soils engineer or geologist.	of Permits	Development Department / Public Works Department	
74.	<u>SOILS REPORT</u> – A soils report containing all design recommendations of footings, pier holes, retaining walls, and any other information pertinent to the soil condition shall be submitted. The Soils Report shall be prepared by a licensed soils engineer or geologist	Prior to issuance of Building Permit	Building Division	
75.	<u>DESIGN-LEVEL GEOTECHNICAL INVESTIGATION</u> – The applicant shall submit a design-level geotechnical exploration, which includes performance of a soil boring or other exploration in the southeast corner of the property in order to confirm continuous soil stratigraphy and a lack of evidence indicative of nearby faulting.	Prior to issuance of Permits	Community Development Department / Public Works Department	
76.	<u>PLAN CHECK FEES</u> – A plan check fee shall be paid to the Building Division at time of submission of plans pursuant to PMC §15.02.060	Prior to issuance of Building Permit	Building Division	
77.	<u>CONTRACTORS</u> – Contractors must identify all subcontractors prior to issuance of a building permit. Each subcontractor must obtain a city business license prior to issuance of a building permit or commencing work pursuant to PMC	Prior to issuance of Building Permit	Building Division	

As Reviewed by City Council
October 18, 2022

26 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	\$5.04.020.			
78.	SMOKE DETECTORS – Smoke detectors are required in all residential units pursuant to PMC §12.10(a) and applicable Building Code.	Prior to issuance of Occupancy Permits	Building Division	
79.	ADDRESSING – Prior to issuance of a “Certificate of Occupancy” or final building inspection approved numbers and addresses shall be installed on all buildings in compliance with Section 15.02.050 of the Municipal Code: a. Specific mounting location shall be determined at the time of plan review. b. Address shall be internally or externally lighted during the hours of darkness. c. Each building within a multiple family, commercial and industrial complex shall have an address on it. If there is more than one building per address, each building shall have an address that is unique from the other buildings. d. Each multiple family unit shall have an address attached to the door or near the door that clearly identifies it.	Prior to issuance of Certificate of Occupancy	Building Division	

As Reviewed by City Council
October 18, 2022

27 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	e. Addressing plans for multiple family, commercial and industrial complexes shall be submitted for review.			
80.	DEBRIS BOX – The Applicant shall ensure that prior to commencing construction a contractor shall place on-site a minimum 10 cubic yard “debris box” for receiving and holding of all construction debris.”	Prior to Construction	Building Division	
81.	CONSTRUCTION NUISANCE PREVENTION – The following provisions shall be followed during all construction activities for the project a. Prior to any earth hauling operations, the applicant shall submit a Hauling Plan for review and approval by the City Engineer. b. When Pinole Middle and/or West County Mandarin School (1575 Mann Drive) is in session, all construction related traffic on Appian Way shall be prohibited during designated pick-up and drop off hours. e.b. All construction vehicles shall be properly maintained and equipped with exhaust and mufflers that meet state and federal standards. d-c. Newly disturbed soil surfaces shall be watered down regularly by a water truck maintained on-site during all daylight hours discontinue	Ongoing	Building Division	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	when winds speed reach 15mph			
<i>Police Department Conditions</i>				
82.	<u>FIBER OPTICS</u> – A fiber optics pathway shall be installed from the project site to the nearest existing fiber optics connection point to the satisfaction of the Building Official. Specifications for the pathway, fiber, interfacing equipment, and junction boxes are available at the Police Department. The equipment necessary to interface with the fiber optics shall be in place in the alarm control panels (fire, burglar, etc.) upon completion of construction	Prior to Certificate of Occupancy Permit	Police Department	
83.	<u>DOORS AND ROOF HATCHES</u> – The following conditions shall be met to the satisfaction of the Building Official prior to issuance of a Certificate of Occupancy. a. All exterior doors (including storage and utility room doors) that exit to the outside, to a common hallway or separate units shall be of solid core wood or metal construction. b. All doors described above shall be equipped with the following locking mechanisms: - Dead Bolt Locks: i. A minimum of ¾ inch diameter by 1-inch throw.			



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	ii. High security case hardened bezel around the locking mechanism. iii. Made of case-hardened steel. iv. High security striker plate (4-screw type, screws a minimum of 1½ inches long). c. All double doors shall have a dead bolt lock, as described in b above, in the primary door. The secondary door shall have lock mechanisms that secure the top of the door to the door head and the bottom of the door to the floor. Where the double doors are separated by a mullion both doors shall have dead bolts as described in b, above. d. All entry doors, except those with glass, shall be equipped with a door viewer that has the capabilities of viewing a minimum of 180 degrees. e. Fire blocks shall be placed at a minimum of two (2) studs' spaces on each side of an exterior door, where locks are required, at the same height as the locks. The design and materials used shall aide in preventing the doorjamb from spreading when a pry tool is used to separate the door from the doorjamb at the lock.		

As Reviewed by City Council
October 18, 2022

30 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	f. All roof hatches (access to roof) shall be securely locked from the inside. Dead bolt or similar locking mechanism is recommended.			
84.	<u>WINDOWS AND SLIDING GLASS DOORS</u> – All windows that are accessible from the ground, balconies, walkways, trees, fences, and roof shall be equipped with an auxiliary locking mechanism in addition to the standard manufacturer's lock.	Prior to Certificate of Occupancy Permit	Police Department	
85.	<u>ALARM SYSTEM (MULTI-FAMILY)</u> – Each individual unit shall be equipped with a burglar alarm system, <u>carbon monoxide detectors, and smoke detectors</u> installed by state licensed contractor. The system shall include: a. <u>Full perimeter coverage to include all doors requiring locks, windows, skylights, and roof hatches.</u> b. <u>Interior backup protection such as motion detectors, contracts on key interior doors and glass breakage detection.</u> c. <u>Battery backup power system with charging system. System shall be hardwired.</u> a-d. <u>All carbon monoxide and smoke detectors shall be installed in each unit.</u>	Prior to Certificate of Occupancy Permit	Police Department	
86.	<u>LANDSCAPING</u>	Prior to	Police	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	a. All landscaping shall be of a variety and type that upon reaching maturity will not provide concealment for a human being and will not grow to cover windows, doors, light fixtures, or addresses. b. Bushes/dense vegetation trimmed to 2' or less c. Trim tree canopies to 6' or higher d. All trees shall be planted a sufficient distance from the buildings so that upon reaching maturity they will not provide roof access.	Certificate of Occupancy	Department	
87.	<u>PUBLIC AREA LIGHTING</u> a. All exterior doorways, stairwells, pathways, walkways, hallways, and courtyards for commercial and industrial buildings shall be lighted to a minimum of 2-foot candles, minimum maintained, measured at 5 feet above ground. b. Parking areas for commercial and industrial buildings shall be lighted to a standard of 2-foot candles, minimum measured at ground level where beams overlap. c. Except as otherwise noted, all security light fixtures shall be mounted a minimum of 10 feet above ground. d. All required lighting shall be equipped with a photoelectric cell or equivalent technology to turn it on at sunset and off at daybreak. e. All areas where video camera surveillance is required shall meet the standards for the camera selected and approved by the Police Department.	Prior to Certificate of Occupancy	Police Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	Timing/ Implementation	Monitoring Department / Division	Verification (date and Signature)
	f. Separate photometric plans shall be submitted for review in conjunction with proposed phased development submittal to ensure adequate lighting is provided for each of the proposed buildings and for the overall project site. g. Lighting shall be on a timer for evening hours. h. The front parking lot is dark. The recommendation is to update lighting in the parking area adjacent to the commercial center shall be to LEDs and following the current foot candle requirement as part of consistent <u>with</u> the overall project.		
88.	RADIO RECEPTION - Prior to occupancy, the owner shall contact the Police Department to provide Police with the opportunity to test radio reception in the buildings to identify any reception issue.	Police Department	
89.	ARCHITECTURAL COMMENTS – Rooftop: The project shall include general safety features associated with people congregating on the roof tops and the play structure on the apartment roof shall have adequate perimeter height to promote safety.	Police Department	
90.	EXTERNAL VIDEO SURVEILLANCE – Video surveillance cameras shall be required, including all outdoor common areas. Management and employees shall be required to know how to operate the system and playback of files shall be	Police Department	

As Reviewed by City Council
October 18, 2022

33 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	compatible with Windows Media Player. Placement of the video surveillance cameras shall be established by the Police Department after review of the plans and intended use of the project. Cameras shall be capable of being monitored from the Police Department upon completion of project.			
<i>Fire Department Conditions of Approval</i>				
91.	FIRE CODE CONFORMANCE – Compliance with the 2019 CFC (California Fire Code), 2019 CBC, (California Building Code) the 20149 NFPA 13 Standards, the NFPA 72 standards, and all local ordinances as they apply to the occupancy and use of the proposed structure and shall be enforced for the scope of work and occupancies of the project redevelopment plan. Compliance with all other NFPA standards is required where applicable and to the satisfaction of the Fire Marshall and/or Fire Chief.	Prior to issuance of Building Permit	Fire Department	
92.	CONSTRUCTION PLANS FOR FIRE PREVENTION – Prior to issuance of a building permit, building construction plans and plans for fire extinguishing system shall be submitted for Fire Code plan check.	Prior to issuance of Building Permit	Fire Department	
93.	TURNING RADIUS – Fire apparatus turning radius shall be in compliance with the	Prior to issuance	Fire	

As Reviewed by City Council
October 18, 2022

34 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	Contra Costa County Standard to accommodate the largest fire truck apparatus.	of Building Permit	Department	
94.	<u>FIRE EXTINGUISHING SYSTEM</u> - An automatic fire extinguishing/ sprinkler system is required to be installed	Prior to issuance of Building Permit	Fire Department	
95.	<u>FIRE ACCESS</u> – Prior to issuance of a building permit, paved fire apparatus roads shall be installed for every building or stockpile of combustible materials located more than 150 feet from fire department vehicle access. Said access roads are to be posted “No Parking Fire Lane” and shall not be used for storage of materials. Fire apparatus turning radius shall be in compliance with the Contra Costa County Standard to accommodate the largest fire truck apparatus	Prior to issuance of Building Permit	Fire Department	
96.	<u>ADDRESS</u> – Addresses shall be a minimum of 6” on a contrasting background visible from the street pre/post construction. Exterior elevated corners of structures shall have 12” numbers.	Prior to Building Permit Final	Fire Department	
97.	<u>KEY VAULT</u> – In order to facilitate emergency access to the structure, a key vault shall be installed as approved by the Fire Department.	Prior to Building Permit Final	Fire Department	
98.	<u>WATER SUPPLY SYSTEM</u> – Prior to issuance of a building permit there shall be an approved and tested water supply system capable of supplying the required	Prior to issuance of Building	Fire Department	

As Reviewed by City Council
October 18, 2022

35 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
	fire flow as determined by the Fire Chief or Fire Marshall. Water supply system for staged construction shall provide required fire flows.	Permit		
99.	<u>FIRE PREVENTION FEES AND INSPECTION</u> – Prior to issuance of a Certificate of Occupancy or final building inspection, the applicant shall pay all applicable fees in accordance with the City's Master Fee Schedule and obtain an inspection from the Fire Department. All meetings and inspections shall require a 48-hour advanced notice.	Prior to issuance of Building Permit	Fire Department	
100	<u>FIRE TRAINING</u> – The applicant shall meet with the Fire Department for the purposes of utilizing existing structures for Fire Training exercises prior to issuance of a demolition permit.	Prior to issuance of Building Permit	Fire Department	
<i>Environmental Conditions</i>				
101	<u>EVN-AQ-1:</u> During all construction activities including demolition and ground disturbance activities, on and offsite, the contractor shall implement the latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust as follows: a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded	Prior to issuance of Building Permit	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	areas, and unpaved access roads) shall be watered two times per day. b. All haul trucks transporting soil, sand, or other loose material shall be covered. c. All visible mud and dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. d. All vehicle speeds on unpaved roads shall be limited to 15 mph. e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as practicable. Building pads shall be laid as soon as practicable after grading unless seeding or soil binders are used. f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. g. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper working condition prior to operation.		

As Reviewed by City Council
October 18, 2022

37 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	h.	A publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be posted on the project site prior to the initiation of construction activities. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.		
102	EVN-BIO-1:	To avoid and minimize potential impacts to nesting birds including passerines and raptors, the following measures shall be implemented: 1. Grading or removal of potentially occupied habitat should be conducted outside the nesting season, which occurs between approximately February 1 and August 31. 2. If grading between August 31 and February 1 is infeasible and groundbreaking must occur within the nesting season, a pre-construction nesting bird survey (migratory species, passerines, and raptors) of the potentially occupied habitat (trees, shrubs, grassland) shall be performed by a qualified biologist within 7 days of groundbreaking. If no nesting birds are observed no further action is required and grading shall occur within one week of the survey to prevent "take" of individual birds that could	Prior to issuance of Building Permit	Community Development Department

As Reviewed by City Council
October 18, 2022

38 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	begin nesting after the survey. 3. If active bird nests (either passerine and/or raptor) are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the occupied habitat until the young have fledged, as determined by a qualified biologist. 4. The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines and 200-500 feet for raptors), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW. 5. To delineate the buffer zone around the occupied habitat, construction fencing shall be placed at the specified radius from the nest within which no machinery or workers shall intrude. 6. Biological monitoring of active nests shall be conducted by a qualified biologist to ensure that nests are not disturbed and that buffers are appropriate adjusted by a qualified biologist as needed to avoid disturbance. 7. No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified ornithologist/biologist that the young have		

As Reviewed by City Council
October 18, 2022

39 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed.			
103	EVN-BIO-2: Prior to any tree removal or alteration, the applicant shall obtain approval from the City of Pinole to implement a plan for tree preservation and replacement in accordance with the City's Tree Removal Permit. Replacement of protected trees onsite shall be replaced by either planting trees onsite as part of the development over and above the landscaping that would otherwise be required at a value equal to the value of the protected trees that will be removed, or through the payment of an in-lieu fee to the City in an amount equal to the value of the protected trees that will be removed.	Prior to issuance of Building Permit.	Community Development Department	
104	EVN-CUL-1: To ensure the Project does not result in impacts to buried archaeological resources onsite, if present, the following shall be implemented: a. Training. Prior to commencement of ground-disturbing activities, a Secretary of the Interior-qualified archaeologist shall conduct a preconstruction training for construction personnel. The training shall familiarize individuals with the potential to encounter prehistoric artifacts or historic-era archaeological deposits, the types of archaeological material that could be encountered within the Project Area, and the requirement for a monitor to be present during initial ground-disturbing	Prior to issuance of Grading Permit	Public Works Department	



Exhibit A **CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS**

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
activities. b. Monitoring. During initial ground disturbing activities on native soils, a Secretary of the Interior-qualified archeologist shall conduct mechanical presence/absence exploration in the portions of the Project Area that will be subject to ground disturbing activities to verify the presence/absence of prehistoric archaeological resources associated with CA-CCO-421 (P-07-000453). The presence/absence exploration shall access the stratigraphy extending to the depth of the proposed excavation in the respective area. The Archaeologist shall also monitor subsequent initial ground disturbing activities in native soil. The monitor shall have the authority to temporarily halt work to inspect areas as needed for potential cultural materials or deposits. Daily monitoring logs shall be completed by the monitor. c. Post-review Discoveries. In the event that cultural resources are exposed during construction, all earth work occurring within 100 feet of the find shall be immediately stopped until a Secretary of Interior-qualified Archaeologist inspects the material(s), assess historical significance, consults with Tribes and other stakeholders as needed, and provides recommendations for the treatment of the discovery. d. Archaeological Monitoring Report: Within 60 days following completion of construction work, an archeological monitoring report shall be			



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	submitted to the City. The report shall include the results of the monitoring program (even if negative), a summary of any findings or evaluation/data recovery efforts, and supporting documentation (e.g., daily monitoring logs).			
105	EVN-CUL-2: In the event that human remains are encountered within the Project Area during Project-related, ground-disturbing activities, all work must stop, and the County Coroner immediately notified of the discovery. If the County coroner determined that remains are, or are believed to be Native American, then the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" (MLD) can be designated to provide further recommendations regarding treatment of the remains. A Secretary of Interior-qualified Archaeologist should also evaluate the historical significance of the discovery, the potential for additional human remains to be present, and to provide further recommendations for treatment of the resource in accordance with the MLD recommendations. Federal regulations require that Native American human remains, funerary objects, and object of cultural patrimony are handed consistent with the requirement of the Native American Graves Protection and Repatriation Act.	During Construction	Community Development Department	
106	EVN-GEO-1: The applicant shall incorporate the recommendations of the Project Geotechnical Report prepared by Miller Pacific Engineering Group	Prior to issuance of Grading	Public Works Department	

As Reviewed by City Council
October 18, 2022

42 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	(November 1, 2021) into construction drawings. As determined by the City Engineer and/or Chief Building Official, all applicable recommendations set forth in the in Geotechnical Report prepared for the subject property, including, but not limited to grading, excavation, foundations systems, and compaction specifications shall be incorporated. Final grading plan, construction plans, and building plans shall demonstrate that recommendations set forth in the geotechnical reports and/or to the satisfaction of the City Engineer/Chief Building Official have been incorporated into the design of the project. Nothing in this mitigation measure shall preclude the City Engineer and/or Chief Building Official from requiring additional information to determine compliance with applicable standards. The geotechnical engineer shall inspect the construction work and shall certify to the City, prior to issuance of a certificate of occupancy that the improvements have been constructed in accordance with the geotechnical specifications.		
107	EVN-GEO-2: Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City Engineer for review. The project shall comply with stormwater management requirements and guidelines established by Contra Costa County under the Contra Costa Clean Water Program Stormwater C.3 Guidebook and incorporate Contra Costa County	Public Works Department	

As Reviewed by City Council
October 18, 2022

43 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
		best management practices for erosion and sediment control for construction. All earthwork, grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City's Erosion Control requirements, Chapter 15.36.190 of the Municipal Code. Plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during all construction activity.		
108	EVN-GEO-3:	Should any potentially unique paleontological resources (fossils) be encountered during development activities; work shall be suspended within 50 feet of the discovery and the City of Pinole Planning Division of the Community Development Department shall be immediately notified. At that time, the City will coordinate any necessary investigation of the discovery with a qualified paleontologist. The project proponent shall be required to implement any mitigation necessary for the protection of paleontological resources. The City and the project applicant shall consider the mitigation recommendations of the qualified paleontologist for any unanticipated discoveries. The City and the project applicant shall consult and agree upon implementation of a measure or measures that the City and project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.	Community Development Department	

As Reviewed by City Council
October 18, 2022

44 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department/ Division</u>	<u>Verification (date and Signature)</u>
109	HAZ-1: The Project applicant shall implement the following Best Management Practices (BMPs) regarding potential soil hazards: a) Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner or if designated for off-site disposal at a permitted facility, the soil shall be loaded, transported, and disposed of in a safe and secure manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal laws, the Regional Water Quality Control Board (RWQCB), the Contra Costa Environmental Health Services Department, and the City of Pinole. b) Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Pinole, the RWQCB and/or Contra Costa Environmental Health Services Department.			



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
110	HAZ-2 Prior to issuance of any demolition, grading, or building permit, the applicant shall submit a report resulting from a comprehensive asbestos survey and, if asbestos containing materials (ACM) are identified onsite, plans for safe removal. If ACM are verified, the applicant shall prepare an Operations and Maintenance (O&M) Safety Plan and receive approval of the O&M Plan by the City of Pinole Fire Department. The purpose of the O&M Plan is to establish protocol for the removal and disposal of ACM and shall also address the potential for accidental discovery of hazards and hazardous materials during construction activities including lead-based paints and groundwater contamination. Said plans shall be implemented during demolition and construction activities including the following: a) Use appropriate site control measures such as wet methods to minimize airborne dust generation. b) Identify construction worker protection plan for handling ACM. c) Characterize material export and proper disposal requirements.	Prior to issuance of Demolition, Grading, and Building Permits	Community Development Department/ Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	Notification requirements to the Bay Area Air Quality Management District in accordance with the Asbestos Demolition and Renovation Program requirements			
111	EVN-HYD-1: Prior to issuance of a building permit, the applicant shall prepare a design-level Stormwater Management Plan that incorporates stormwater management requirements and best management practices, per Pinole Municipal Code Chapter 8.20 and Contra Costa County Clean Water Program requirements, including the Contra Costa Clean Water Program Stormwater C.3 Guidebook and demonstrates that the storm drain system has adequate capacity to serve the project. The Stormwater Management Plan shall be reviewed and accepted by the City Engineer.	Prior to issuance of Building Permit	Public Works Department	
112	EVN-HYD-2: Prior to issuance of a grading permit, the applicant shall file a Notice of Intent with the RWQCB and demonstrate compliance with the Statewide General Permit for Construction Activities. In accordance with the National Pollution Discharge Elimination System (NPDES) regulations, the applicant shall prepare and implement a project-specific Stormwater Pollution Prevention Plan, including an erosion control plan, for grading and construction activities. The SWPPP shall address erosion and sediment control during all phases of construction, storage, and use of fuels, and use and clean-up of fuels and hazardous materials. The SWPPP shall designate locations where fueling, cleaning and maintenance of equipment can occur and	Prior to issuance of Grading Permit	Public Works Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	shall ensure that protections are in place to preclude materials from entering into storm drains. The contractor shall maintain materials onsite during construction for containments and clean-up of any spills. The applicant shall provide approval documentation from the RWQCB to the City verifying compliance with NPDES.			
113	EVN-NOI-1: Construction activities including delivery and hauling shall comply with construction hours as provided under Pinole Municipal Code Section 15.02.070 and in accordance with construction best management practices for minimizing noise including: 1. Construction shall be limited to the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday, excluding holidays. Saturday work is allowed in commercial zones only, from 9:00 a.m. to 6:00 p.m., as long as it is interior work and does not generate significant noise. Any work outside of these hours by the construction contractors should require a special permit from the City Manager. There should be compelling reasons for permitting construction outside of these designated hours. 2. Construct temporary noise barriers, where feasible, to screen adjoining land uses. Temporary noise barrier fences	During Construction	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
		would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps. 3. The contractor shall use "new technology" power construction equipment with state-of-the-art noise shielding and muffling devices. All internal combustion engines used on the project site shall be equipped with adequate mufflers and shall be in good mechanical condition to minimize noise created by faulty or poorly maintained engines or other components. 4. The unnecessary idling of internal combustion engines shall be prohibited. 5. Staging areas and stationary noise-generating equipment shall be located as far as possible from noise-sensitive receptors. 6. Ensure that generators, compressors, and pumps are housed in acoustical enclosures.		

As Reviewed by City Council
October 18, 2022

49 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	7. Locate cranes as far from adjoining noise-sensitive receptors as possible. 8. Substitute nail guns for manual hammering and electrically powered tools for noisier pneumatic tools, where feasible. 9. A “noise disturbance coordinator” shall be designated to respond to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (e.g., beginning work too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. A telephone number for the disturbance coordinator would be conspicuously posted at the construction site.			
114	EVN-NOI-2 The following measures shall be incorporated to reduce interior noise levels to 45 dBA DNL or less at residential interiors: 1. Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, for all residential units on the project site, so that windows can be kept closed at the occupant’s discretion	Ongoing	Community Development Department	



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

	<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	to control interior noise and achieve the interior noise standards. 2. Residential units along the northern building façade should be provided with windows and doors having a minimum rating of 30 Sound Transmission Class (STC) and adequate forced-air mechanical ventilation in order to meet the interior noise threshold of 45 dBA DNL. 3. Residential units along the western and eastern building façades should be provided with windows and doors having a minimum rating of 28 STC and adequate forced-air mechanical ventilation in order to meet the interior noise threshold of 45 dBA DNL. 4. A qualified acoustical specialist shall conduct a unit-by-unit analysis of interior residential noise levels and recommend building treatments to reduce interior noise levels to 45 dBA DNL or less. Treatments would include, but are not limited to, sound-rated windows and doors, sound-rated wall and window constructions, acoustical caulking, protected ventilation openings, etc. Results of the analysis, including the description of the necessary noise control treatments,		

As Reviewed by City Council
October 18, 2022

51 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
	shall be submitted to the City, along with the building plans and approved design, prior to final of a building permit.			
115	EVN-TRAN-1: Prior to the issuance of Building Permit, the applicant shall provide the Project's fair share contribution as established by the City towards multi-modal improvements in the Project vicinity as identified in the Three Corridors Specific Plan.	Prior to issuance of Building Permit	Community Development Department	
116	EVN-TRAN-2: To maintain adequate sight lines at the project driveways, pursuant to Pinole Municipal Code Section 17.98.020, signage, trees, and other landscaping features within the clear vision triangle at driveway and street intersections shall be maintained such that visibility is maintained between thirty (30) inches and seven (7) feet. The applicant shall be responsible for maintaining adequate sight lines from the project driveways, on-street parking on Fitzgerald Drive is prohibited, and vegetation shall be trimmed to about one foot in height on the west sides of the driveways.	Ongoing	Community Development Department	

As Reviewed by City Council
October 18, 2022

52 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
117	EVN-TRAN-3 Prior to final occupancy, the applicant shall reconstruct the westerly driveway to the Project site such that it is at grade with Fitzgerald Drive to improve sightlines.	Prior to Occupancy Permits	Community Development Department	
118	EVN-TRAN-4: Prior to final occupancy, the applicant shall construct a pedestrian-refuge median island along with high visibility continental markings, yield line striping, and a flashing "Yield Here to Pedestrian" sign at the intersection of the easterly driveway to the Project and Fitzgerald Drive	Prior to Occupancy Permits	Community Development Department	
119	EVN-TRAN-5 Prior to issuance of the certificate of occupancy, a final Transportation Demand Management Plan shall be provided to the Community Development Department for review and approval. The TDM Plan shall include example materials that will be used to educate residents about the programs, designate a staff position as the Transportation Coordinator, and detail the program implementation schedule which should commence with occupation of the building.	Prior to Occupancy Permits	Community Development Department	
120	ENV-TCUL-1: To protect buried Tribal Cultural Resources that may be encountered during construction activities, the Project shall implement environmental COA CUL-1 and COA CUL-2.	During Construction	Community Development Department	

As Reviewed by City Council
October 18, 2022

53 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

		<u>Timing/ Implementation</u>	<u>Monitoring Department / Division</u>	<u>Verification (date and Signature)</u>
121	ENV-UTIL-1: Pursuant to Action GM 2.2.1 Service Standards, prior to issuance of a building permit, the applicant shall secure verification from EBMUD that adequate water supplies are available to serve the project and prior to issuance of occupancy the applicant shall demonstrate that all EBMUD water efficiency requirements have been fulfilled.	Prior to issuance of building permit	Public Works Department	
122	ENV-UTIL-2: Pursuant to MM 4.12.6.2, the project shall secure a can and will serve letter demonstrating that there is sufficient sewer/water treatment and conveyance capacity prior to issuance of Certificate of Occupancy. The proposed project shall have a unique connection to the public sewer collection system. The connection to the sewer system will require a permit from the City of Pinole, the payment of sewer user fees, and payment of a sewer connection fee prior to the issuance of building permits.	Prior to Certificate of Occupancy	Community Development Department	
123	ENV-UTIL-3: Pursuant to General Plan Action CS.8.1.3 and in accordance with current CalGreen Building Code requirements, a Construction Waste Management Plan shall be prepared and implemented during all stages of construction. The Construction Waste Management Plan shall meet the minimum requirements of the CalGreen code for residential development including but not limited to regional material sourcing (A5.405.1), Bio-based materials (A5.105.2), Reused materials (A5.405.3), and materials with a recycled content (A5.405.4).	Prior to issuance of Building Permit	Community Development Department	

As Reviewed by City Council
October 18, 2022

54 of 55

Pinole Vista Project 1500 Fitzgerald
Design Review (DR) 21-12



Exhibit A
CITY COUNCIL RESOLUTION 22-XX CONDITIONS OF APPROVALS

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124	ENV-UTIL-4: In accordance with CalGreen Section 4.410.2 onsite recycling shall be provided in readily accessible areas for the depositing, storage and collection of non-hazardous materials including at a minimum paper, cardboard, glass, plastics, organic waste, and metals.	Ongoing	Community Development Department	
125	ENV-UTIL-5: The applicant shall coordinate with Republic Services to appropriately size trash enclosures and ensure that maximum waste stream diversion occurs by providing onsite pre-sorting for recyclables and green waste for compostable and organic materials as available.	Ongoing	Community Development Department	

*Note: Conditions of Approval beginning with "ENV" are based on the CEQA document for the project.

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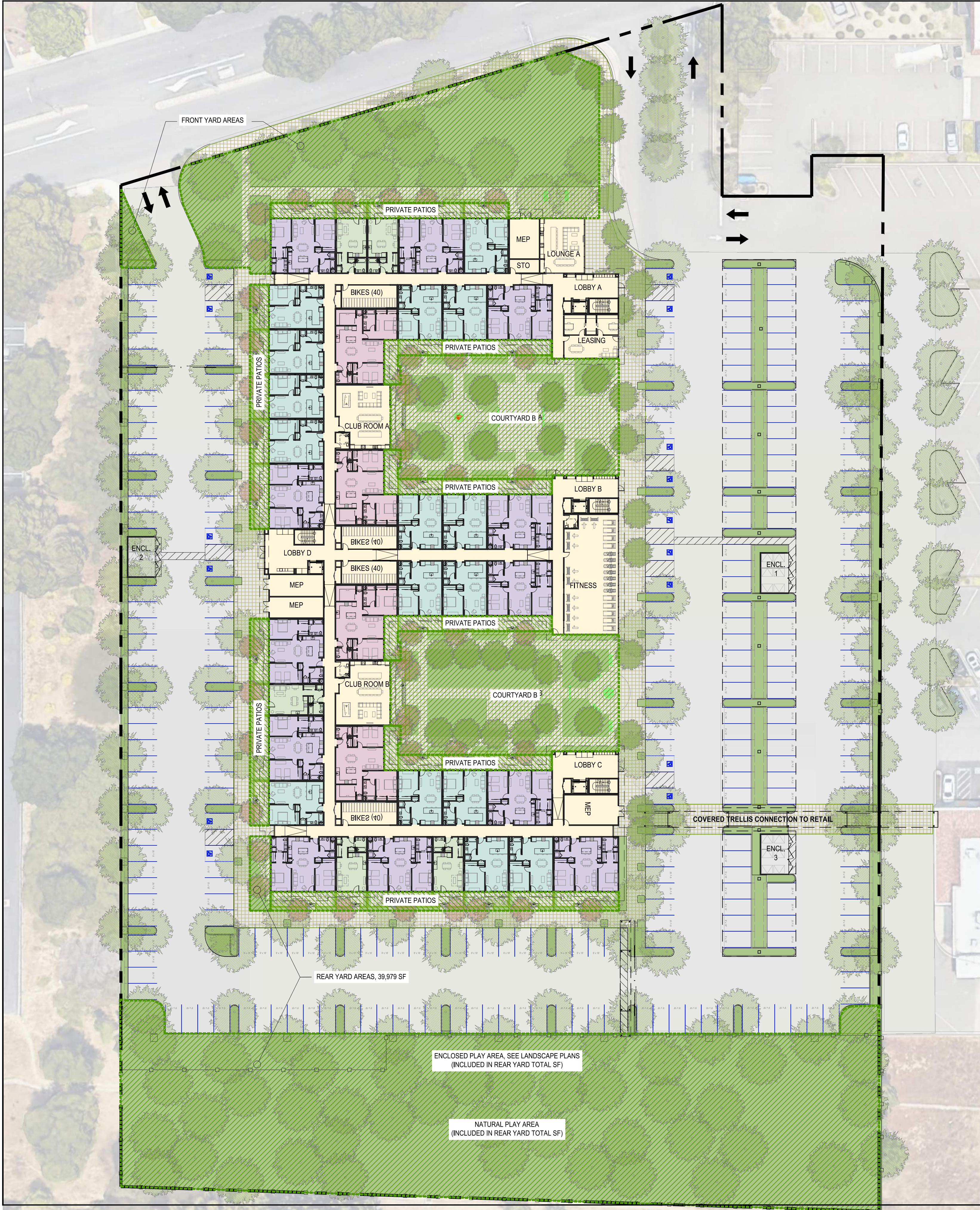
GENERAL
PROJECT
INFORMATION

A0.0



PROJECT INFORMATION						
PROJECT DESCRIPTION						
PROPOSED DEMOLITION OF AN EXISTING VACANT RETAIL STRUCTURE AND CONSTRUCTION OF A NEW HOUSING DEVELOPMENT WITH 223-DWELLING UNITS, UTILIZING THE STATE DENSITY BONUS AND SB-330.						
DENSITY BONUS CALCULATIONS						
BASE DENSITY	178 (5.93 ACRES x 30 UNITS PER ACRE)					
PERCENTAGE OF VLI UNITS PROVIDED	7.3%					
NUMBER OF VLI UNITS PROVIDED	13					
PERCENTAGE DENSITY BONUS AWARDED	25%					
NUMBER OF BONUS UNITS (ROUNDS UP)	45					
PROPOSED UNITS WITH DENSITY BONUS	223					
NUMBER OF CONCESSIONS AWARDED	1					
REQUESTED COST-REDUCTION CONCESSION	CONCESSION TO ELIMINATE THE COMMERCIAL REQUIREMENT					
REQUESTED WAIVERS	NO WAIVERS ARE REQUESTED					
PINOLE - AFFORDABLE UNIT CALCULATIONS						
	NUMBER	% OF BASE				
BASE UNITS	178	100%				
TOTAL AFFORDABLE %	26.7	15%				
VLI UNITS (MIN. 40% OF TOTAL)	13.0	7%	49%			
LI UNITS	13.7	8%	51%			
ZONING SUMMARY						
	BASE ZONING ALLOWBLE / REQUIRED	ALLOWABLE / REQUIRED W/ 25% DENSITY BONUS		PROPOSED PROJECT W/ WAIVERS AND (1) CONCESSION		
ZONING	CMU – COMMERCIAL MIXED USE					
SPECIFIC PLAN DESIGNATION	APPJIAN WAY – SERVICE SUB-AREA					
PARCEL AREA (ACRES)	5.93	5.93		5.93		
DENSITY (UNITS/ACRE)	30	30 + 25%		37.61		
NUMBER OF UNITS	178	223		223		
HEIGHT	6-STORIES / 75'	8-STORIES / 95'		5-STORIES / 55'		
SETBACK FRONT (NORTH)	0'	0'		67'-0" AVG.		
SETBACK SIDE (WEST)	0'	0'		77'-6"		
SETBACK SIDE (EAST)	0'	0'		142'-3"		
SETBACK REAR (SOUTH)	15'	15'		167'-4" AVG		
OPEN SPACE	80 SF/UNIT	80 SF/UNIT		369 SF/UNIT (SEE A0.1)		
PARKING	SEE PARKING TABLE					
BICYCLE PARKING (1 PER 4 UNITS)	53.5	53.5		160		
FAR	NA (SPECIFIC PLAN ELIMINATES AS A CONSTRAINT)					
MAXIMUM GROSS FLOOR AREA	NA	NA		NA		
TOTAL GROSS FLOOR AREA	NA	538,494		263,862		
RESIDENTIAL FLOOR AREA (49%)	49%	263,862		263,862		
COMMERCIAL FLOOR AREA (51%)	51%	274,632		0% W/ CONCESSION*		
*Per the Government Code below, as a density bonus housing development which provides 5 percent of the (base) total units for very low income households, the project shall receive one concession or incentive which results in identifiable and actual cost reductions. This project requests one cost-reduction concession to eliminate the identifiable, actual (and self-evident) costs of constructing the several hundred thousand square feet of commercial floor area that would otherwise be required to meet the 51% commercial floor area requirement.						
GOVERNMENT CODE 65915						
(d) (1) An applicant for a density bonus pursuant to subdivision (b) may submit to a city, county, or city and county a proposal for the specific incentives or concessions that the applicant requests pursuant to this section, and may request a meeting with the city, county, or city and county. The city, county, or city and county shall grant the concession or incentive requested by the applicant unless the city, county, or city and county makes a written finding, based upon substantial evidence, of any of the following:						
(A) The concession or incentive does not result in identifiable and actual cost reductions, consistent with subdivision (k), to provide for affordable housing costs, as defined in Section 50052.5 of the Health and Safety Code, or for rents for the targeted units to be set as specified in subdivision (c).						
(B) The concession or incentive would have a specific, adverse impact, as defined in paragraph (2) of subdivision (d) of Section 65589.5, upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact without rendering the development unaffordable to low-income and moderate-income households.						
(C) The concession or incentive would be contrary to state or federal law.						
(2) The applicant shall receive the following number of incentives or concessions:						
(A) One incentive or concession for projects that include ... at least 5 percent for very low income households, or at least 10 percent for persons and families of moderate income in a common interest development.						
AREA AND UNIT TABLE						
	GSF	STUDIO	1-BR	2-BR	2-BR+ OFFICE	TOTAL
LEVEL 5	51,426	7	20	14	4	45
LEVEL 4	53,470	8	21	14	4	47
LEVEL 3	53,470	8	21	14	4	47
LEVEL 2	53,470	8	21	14	4	47
LEVEL 1	52,026	5	16	12	4	37
TOTAL	263,862	36	99	68	20	223
		16%	44%	30%	9%	100%
		16%	44%	39%		
PARKING REQUIREMENTS AS A STATE DENSITY BONUS PROJECT						
		STUDIO	1-BR	2-BR	2-BR+ OFFICE	TOTAL
DWELLING UNITS		36	99	68	20	223
REQUIRED SPACES PER UNIT - Per 65915(p)(1)		1	1	1.5	1.5	
TOTAL REQUIRED PARKING		36	99	102	30	267
TOTAL PARKING PROVIDED						275
				EXCESS PARKING SPACES:		8
				ADA SPACES REQ'D (5%)		14
AMENITIES						
TOTAL AMENITIES	5,650					
LOUNGE A "CAFÉ"	775					
CLUB ROOM A	1,130					
CLUB ROOM B	1,130					
FITNESS	2,075					
L5 COMMUNITY ROOOM	540					
OPEN SPACE						
SEE SHEET A0.1						

VICINITY MAP		DRAWING LIST		PROJECT DIRECTORY	
		SHEET NO. & TITLE ARCHITECTURAL A0.0 GENERAL INFORMATION A0.1 OPEN SPACE DIAGRAMS A2.0 SITE PLAN A2.1 PLANS A2.2 PLANS A2.3 PLANS A2.4 UNIT PLANS A2.5 TRASH / RECYCLING ENCLOSURE PLANS A3.1 BUILDING ELEVATIONS A3.2 BUILDING ELEVATIONS A3.3 MATERIALS AND COLORS A3.4 PERSPECTIVE VIEWS A3.5 PERSPECTIVE VIEWS A3.6 PERSPECTIVE VIEWS A3.7 PERSPECTIVE VIEWS A3.8 PERSPECTIVE VIEWS A3.9 PERSPECTIVE VIEWS A4.1 BUILDING SECTIONS CIVIL C1.0 EXISTING CONDITIONS C1.1 DEMOLITION PLANS C2.0 GRADING AND DRAINAGE PLAN C2.1 GRADING AND DRAINAGE PLAN C3.1 UTILITY PLAN C3.0 UTILITY PLAN C4.0 FITZGERALD CROSSWALK PLAN LANDSCAPE L1.1 CONCEPTUAL LANDSCAPE PLAN L1.2 COMMON AREA DETAIL PLANS L1.3 HILLSIDE PARK AREA L1.4 TREE IMAGES L1.5 FENCE EXHBIT L2.1 CONCEPT IRRIGATION PLAN LIGHTING - LIGHTING PLAN		OWNER: ROIC PINOLE VISTA, LLC. 11250 El Camino Real, # 200 San Diego, CA 92130 Contact: Chris Cole ccole@metrovation.com ARCHITECT: Isaiah Stackhouse, Principal TRACHTENBERG ARCHITECTS 2421 Fourth Street Berkeley, CA 94710 510.649.1414 www.TrachtenbergArch.com CIVIL: Casey McDondald, PE ADOBEE ASSOCIATES 1220 N. Dutton Ave Santa Rosa, CA 95401 707-541-2300 www.adobeinc.com LANDSCAPE ARCHITECT: Don MacNair MACNAIR LANDSCAPE ARCHITECTURE PO Box 251 Kenwood, CA 95452 707-633-2288 www.macnairlandscapes.com	



17.98.020 GENERAL DEFINITIONS.
USABLE OPEN SPACE. Outdoor space, including natural and landscaped ground areas, pools, patios, decks, and balconies, designed for active or passive recreational use and which is accessible to the occupants of a building on the same lot.

USABLE OPEN SPACE					
	UNITS	SF/UNIT	TOTAL	SITE AREA	% OF SITE
REQUIRED OPEN SPACE	223	80	17,840	258,311	32%
PROVIDED OPEN SPACE	223	369	82,180		
FRONT YARD OPEN SPACE AREAS			15,107		
ROOF DECK			575		
COURTYARD A			8,484		
COURTYARD B			8,484		
REAR YARD OPEN SPACE AREAS			39,979		
PRIVATE PATIOS AT GROUND LEVEL UNITS	37	258	9,551		

- KEY
- COMMON OPEN SPACE
 - PRIVATE OPEN SPACE



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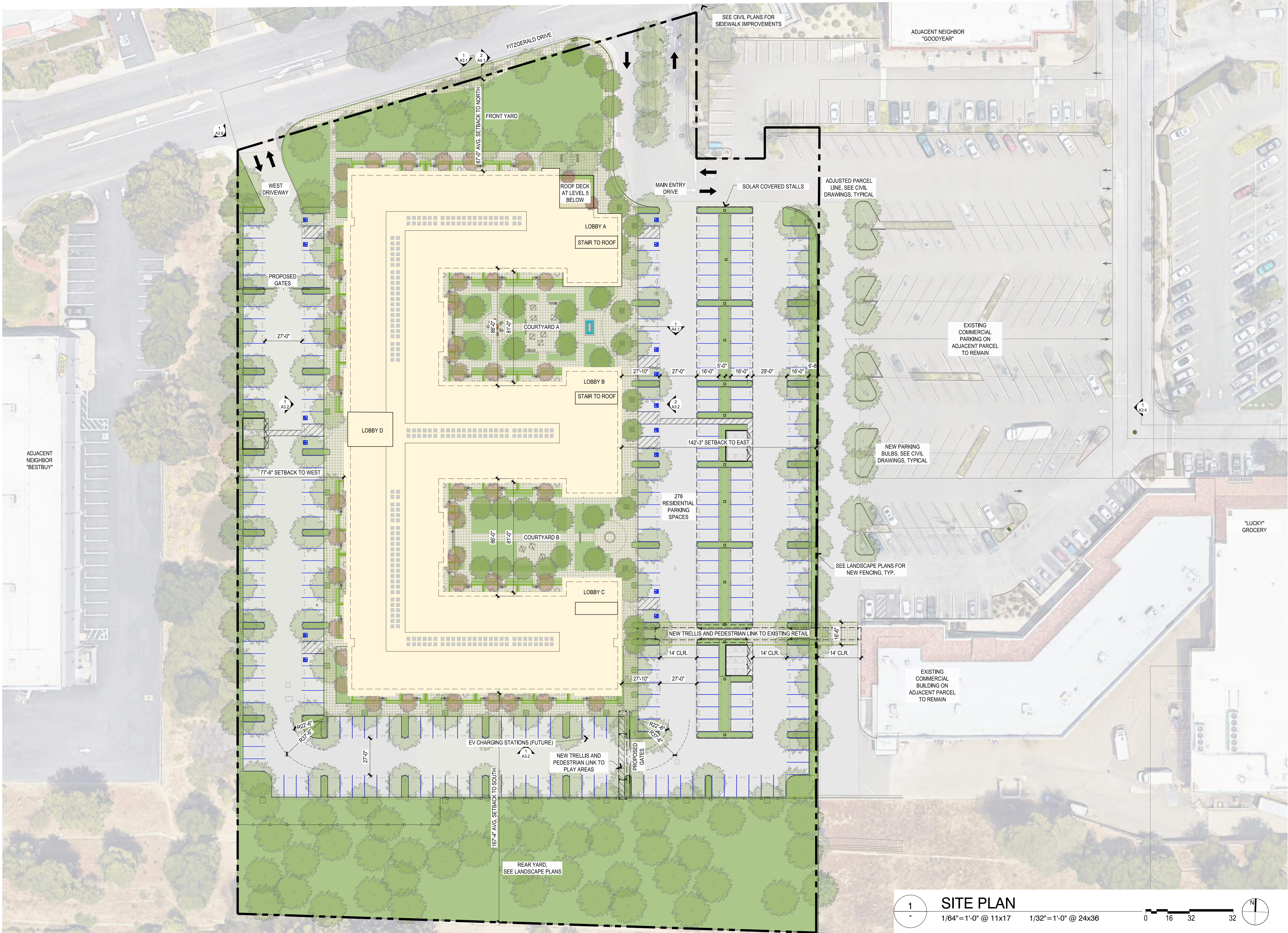
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OPEN SPACE
DIAGRAMS

A0.1



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SITE PLAN

A2.0

1

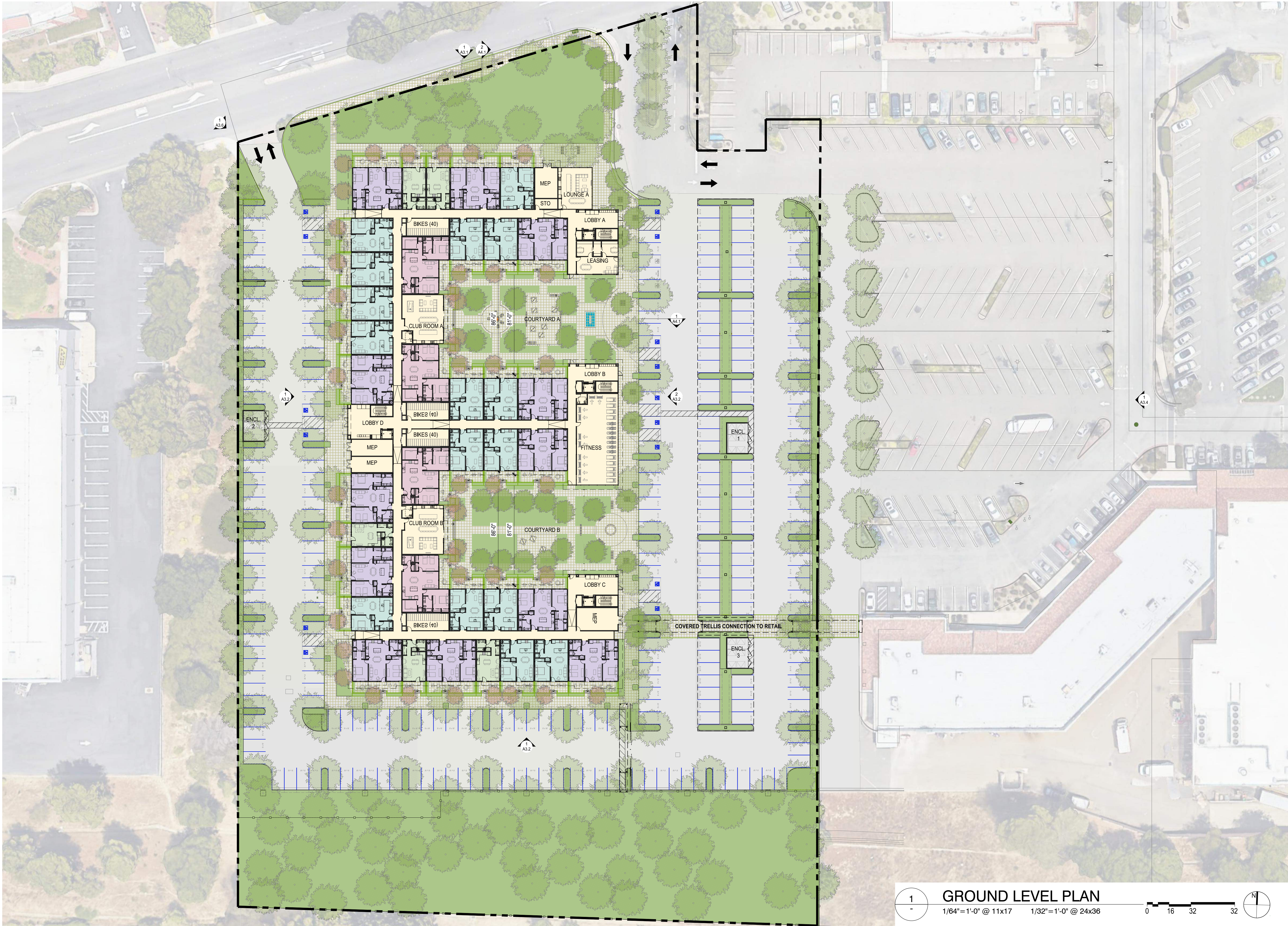
SITE PLAN

1/64"=1'-0" @ 11x17

1/32"=1'-0" @ 24x36

0 16 32 32

N



1
GROUND LEVEL PLAN
1/64"=1'-0" @ 11x17 1/32"=1'-0" @ 24x36 0 16 32 32

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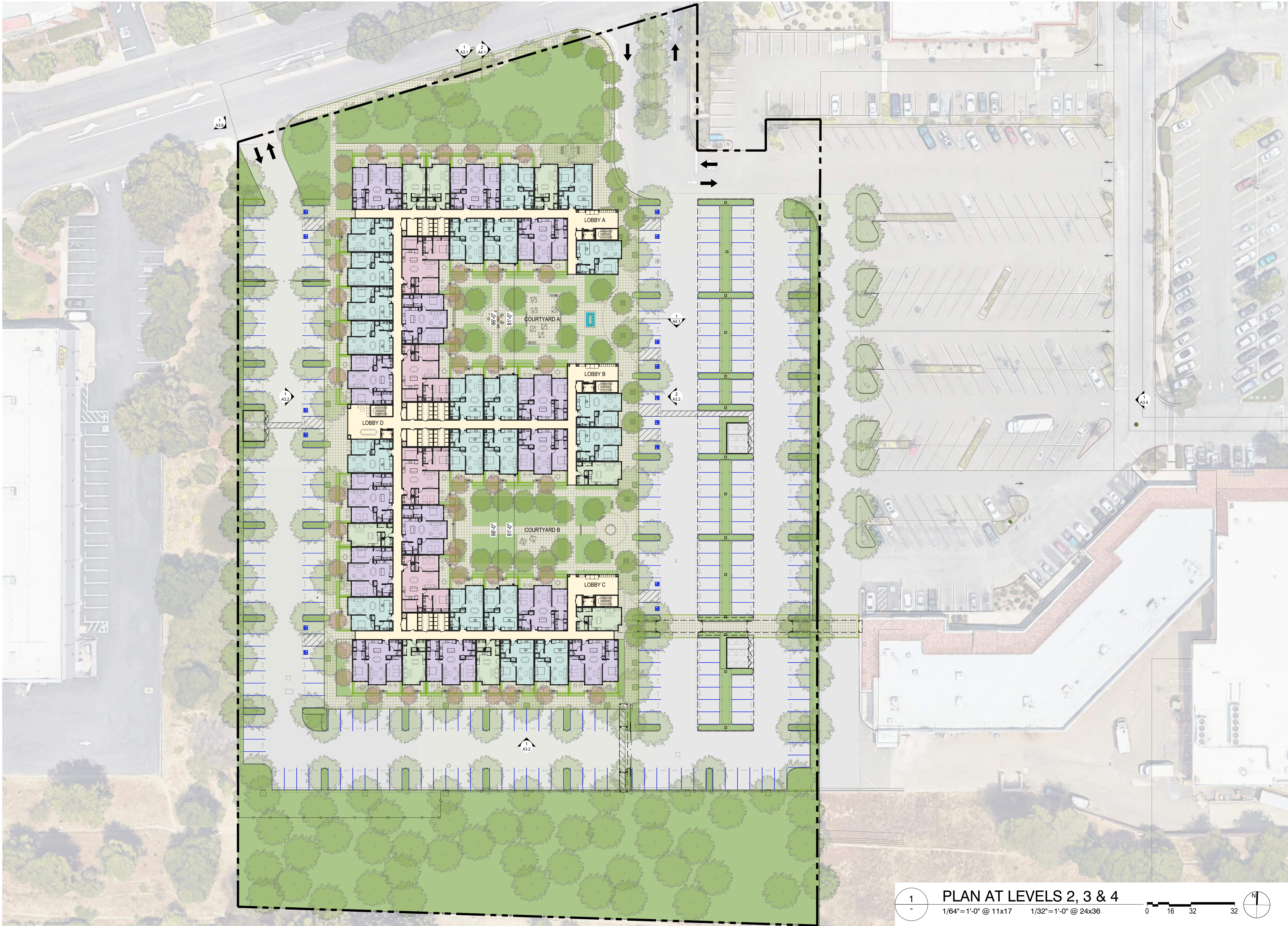
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PLAN AT
GROUND LEVEL

A2.1



1 PLAN AT LEVELS 2, 3 & 4
1/64"=1'-0" @ 11x17 1/32"=1'-0" @ 24x36 0 16 32 32

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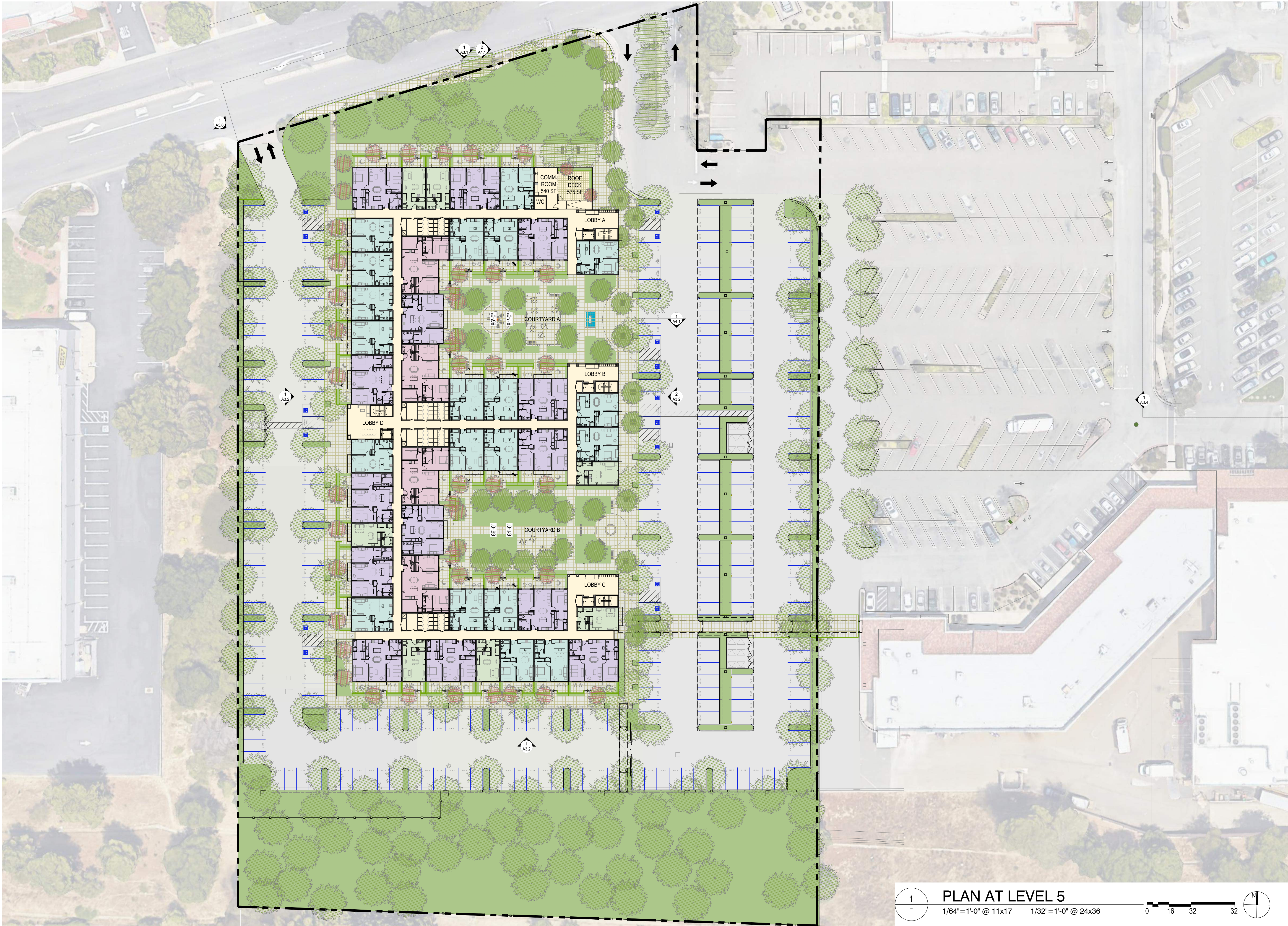
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PLAN AT LEVELS
LEVELS 2, 3, & 4

A2.2



1
PLAN AT LEVEL 5
1/64"=1'-0" @ 11x17 1/32"=1'-0" @ 24x36 0 16 32 32

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PLAN AT LEVEL
LEVEL 5

A2.3



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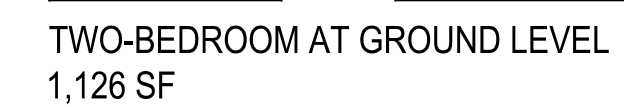
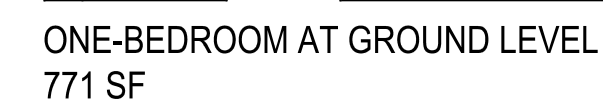
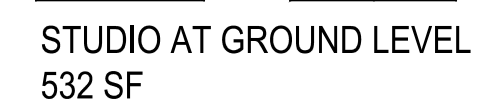
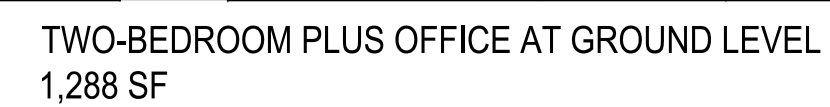
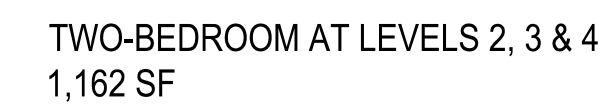
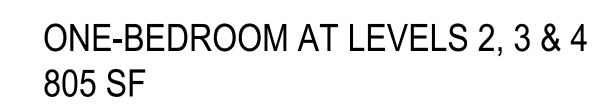
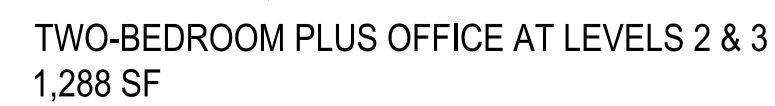
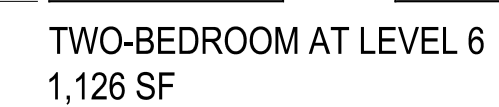
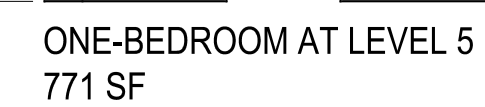
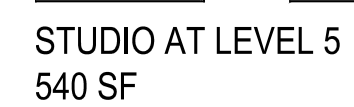
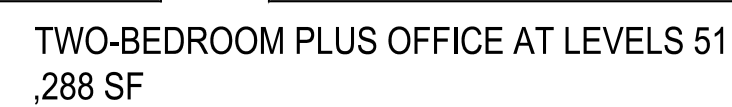
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JOB: 1924

SHEET:

UNIT PLANS

A2.4



1

UNIT PLANS

$$1/16'' = 1'-0'' @ 11 \times 17'' \quad 1/8'' = 1'-0'' @ 24 \times 36''$$



PINOLE
VISTA

1500 FITZGERALD DR,
PINOLE, CA 94564

- 04.07.2021 PLANNING SUBMITTAL
- 07.01.2021 PLANNING SUBMITTAL
- 07.05.2022 PLANNING SUBMITTAL
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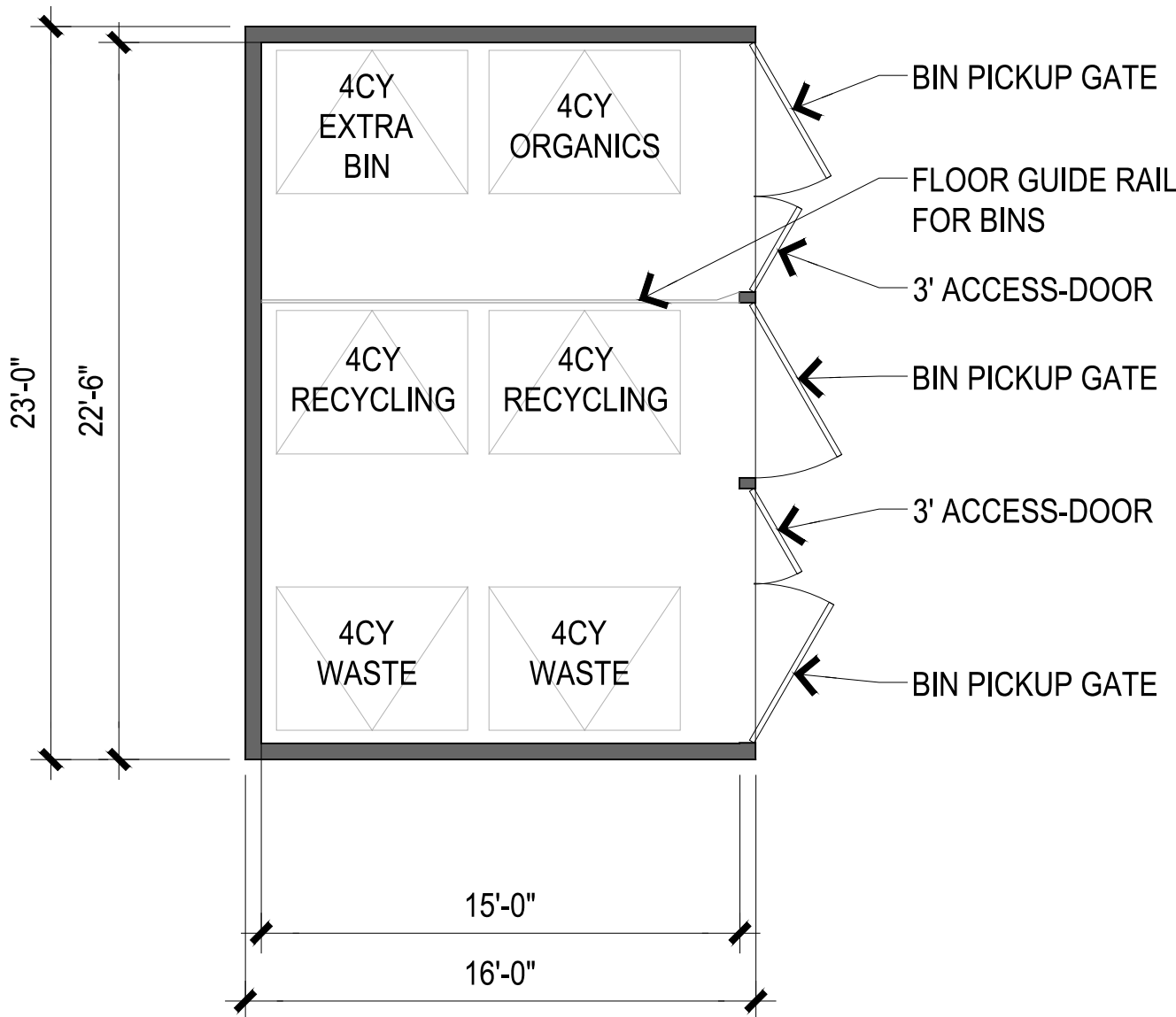
JOB: 1924

SHEET:

TRASH &
RECYCLING
ENCLOSURE PLANS

A2.5

Waste and Recycling Calculations												
Per Stopwaste.org "Space Guidelines for Recycling, Organics and Refuse Services for Designers of MultiFamily & Commercial Buildings"												
	Units	Cubic Yards per Unit	Total CY required	Waste (40%)			Recycling (40%)			Organics (20%)		
				# of Bins	size of bins (CY)	Cubic Yds	# of Bins	size of bins (CY)	Cubic Yds	# of Bins	size of bins (CY)	Cubic Yds
Total Required	223	0.25	55.75 cy			22 cy			22 cy			11 cy
Total provided				7	4	28 cy	7	4	28 cy	4	4	16 cy
Trash Enclosure 1				3	4	12 cy	2	4	8 cy	1	4	4 cy
Trash Enclosure 2				2	4	8 cy	3	4	12 cy	1	4	4 cy
Trash Enclosure 3				2	4	8 cy	2	4	8 cy	2	4	8 cy
Total provided exceeds required by:						26%			26%			43%



TYPICAL ENCLOSURE PLAN
(TYPICAL OF 3 LOCATIONS)



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JOB: 1924

SHEET:

SITE
ELEVATIONS

A3.1



2 WEST ELEVATION



1 NORTH ELEVATION



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JOB: 1924

SHEET:

SITE
ELEVATIONS

A3.2



2
EAST ELEVATION



1
SOUTH ELEVATION



PINOLE
VISTA

1500 FITZGERALD DR,
PINOLE, CA 94564

04.07.2021	PLANNING SUBMITTAL
07.01.2021	PLANNING SUBMITTAL
07.05.2022	PLANNING SUBMITTAL
08.22.2022	PLANNING SUBMITTAL
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JOB: 1924

SHEET:

MATERIALS AND
COLOR BOARD

A3.3





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JOB: 1924

SHEET:

CONCEPTUAL
RENDERING

A3.4



1 VIEW OF MAIN PROJECT ENTRY



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JOB: 1924

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CONCEPTUAL
RENDERING

A3.5



1 GROUND LEVEL DETAIL VIEW



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JOB: 1924

SHEET:

CONCEPTUAL
RENDERING

A3.6



1 VIEW FROM PEDESTRIAN PATH TO RETAIL CENTER

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VISTA

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SHEET:

CONCEPTUAL
RENDERING

A3.7



1 VIEW OF WEST ENTRANCE



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JOB: 1924

SHEET:

CONCEPTUAL
RENDERING

A3.8



1 SIDEWALK DETAIL ALONG WEST FACADE



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SHEET:

CONCEPTUAL
RENDERING

A3.9



1 EVENING VIEW FROM PLAZA



PINOLE
VISTA

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- 09.13.2022 PLANNING SUBMITTAL
- 10.11.2022 PLANNING SUBMITTAL

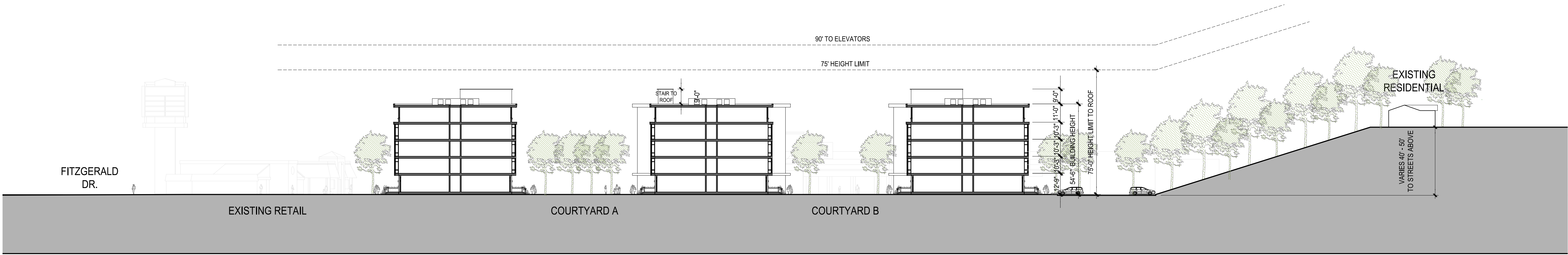
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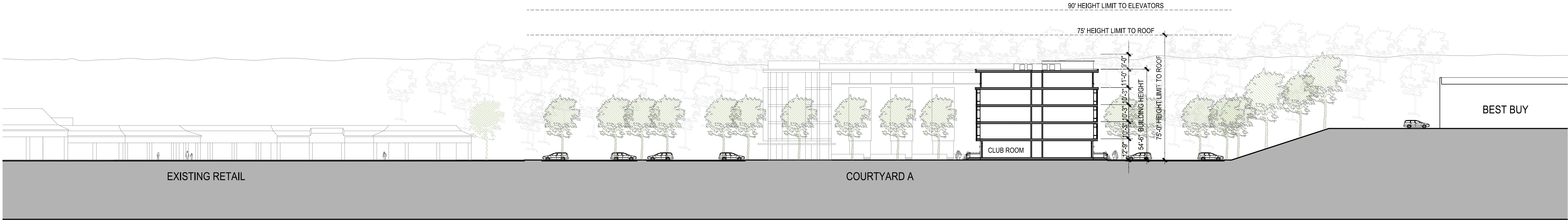
SHEET:

SITE
SECTIONS

A4.1

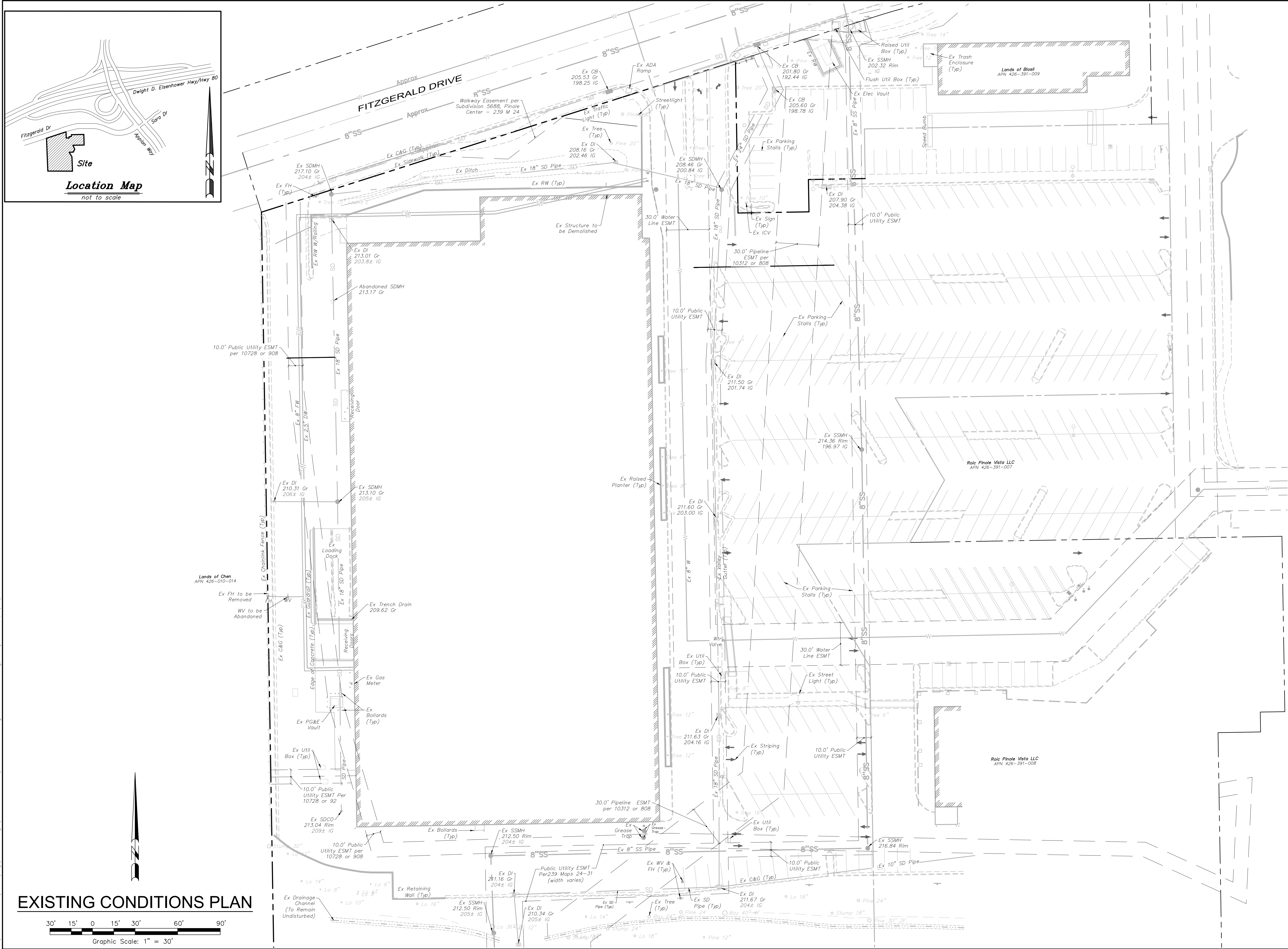


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-
NORTH-SOUTH SECTION (LOOKING EAST)
1/64" = 1'-0" @ 24 x 36" 1/32" = 1'-0" @ 24 x 36"

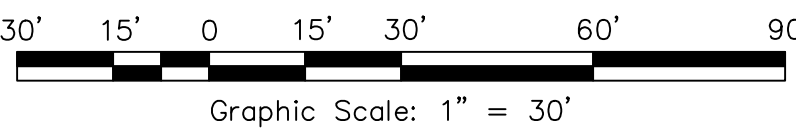


1
-
EAST-WEST SECTION (LOOKING SOUTH)
1/64" = 1'-0" @ 24 x 36" 1/32" = 1'-0" @ 24 x 36"

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EXISTING CONDITIONS PLAN



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**PINOLE MIXED USE
EXISTING CONDITIONS PLAN**
1500 Fitzgerald Drive
Pinole, California
APN 125-551-016

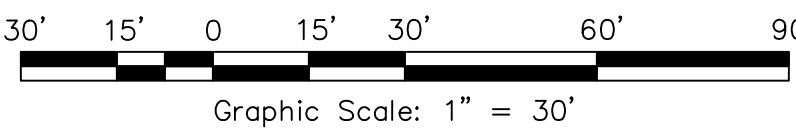
David R. Brown, RCE 41833
My license expires 3/31/2024

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civil engineering | land surveying | wastewater
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* CONTRACTOR TO VERIFY QUANTITIES PRIOR TO CONSTRUCTION

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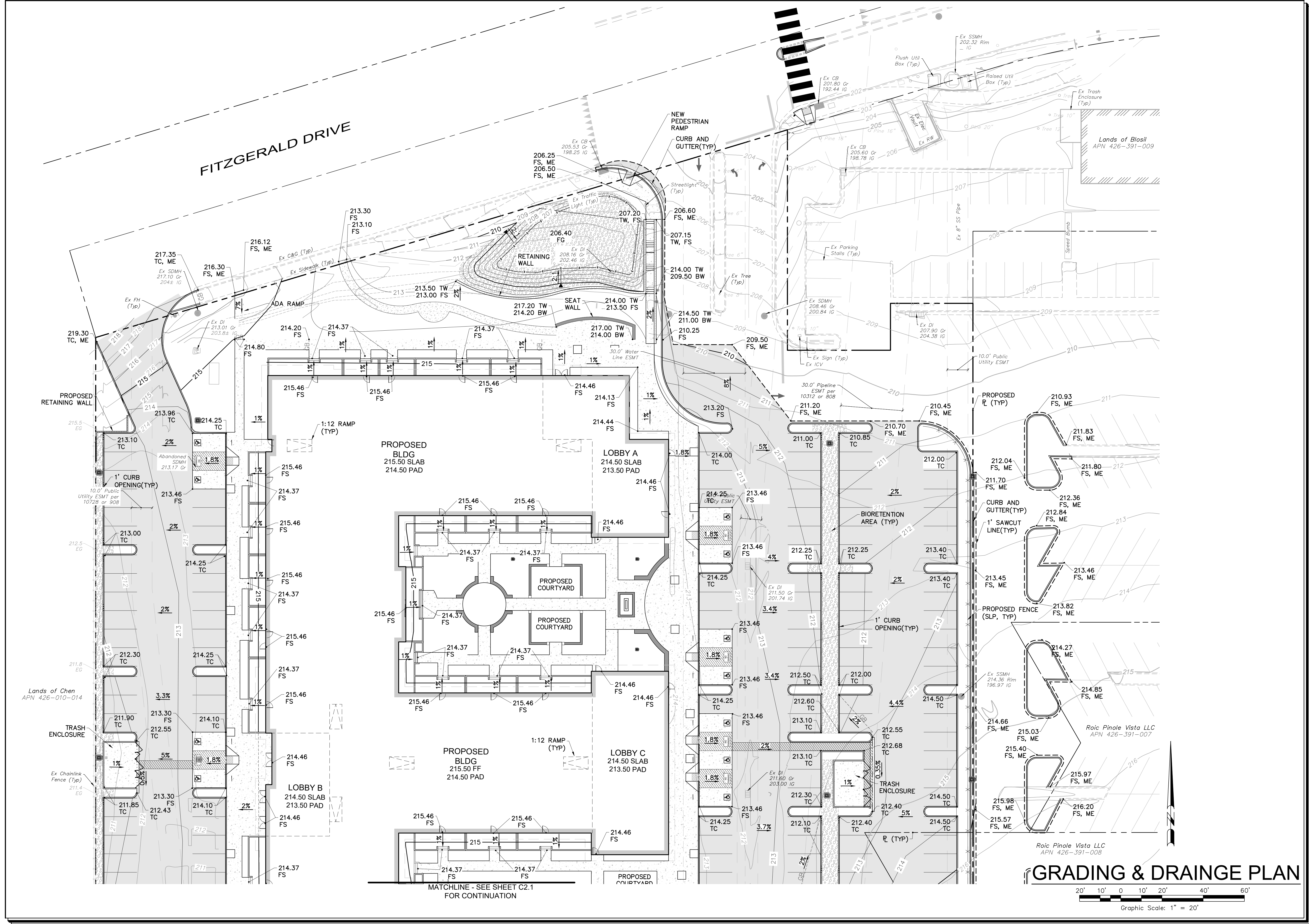
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Job 20313

Pinole Mixed Use

Grading & Drainage Plan

1500 Fitzgerald Drive

Pinole, California

APN 125-551-016

David R. Brown, RCE 41833

My license expires 3/31/2024

David R. Brown

Professional Engineer - Civil

Exp. 3/31/2024

No. 41833

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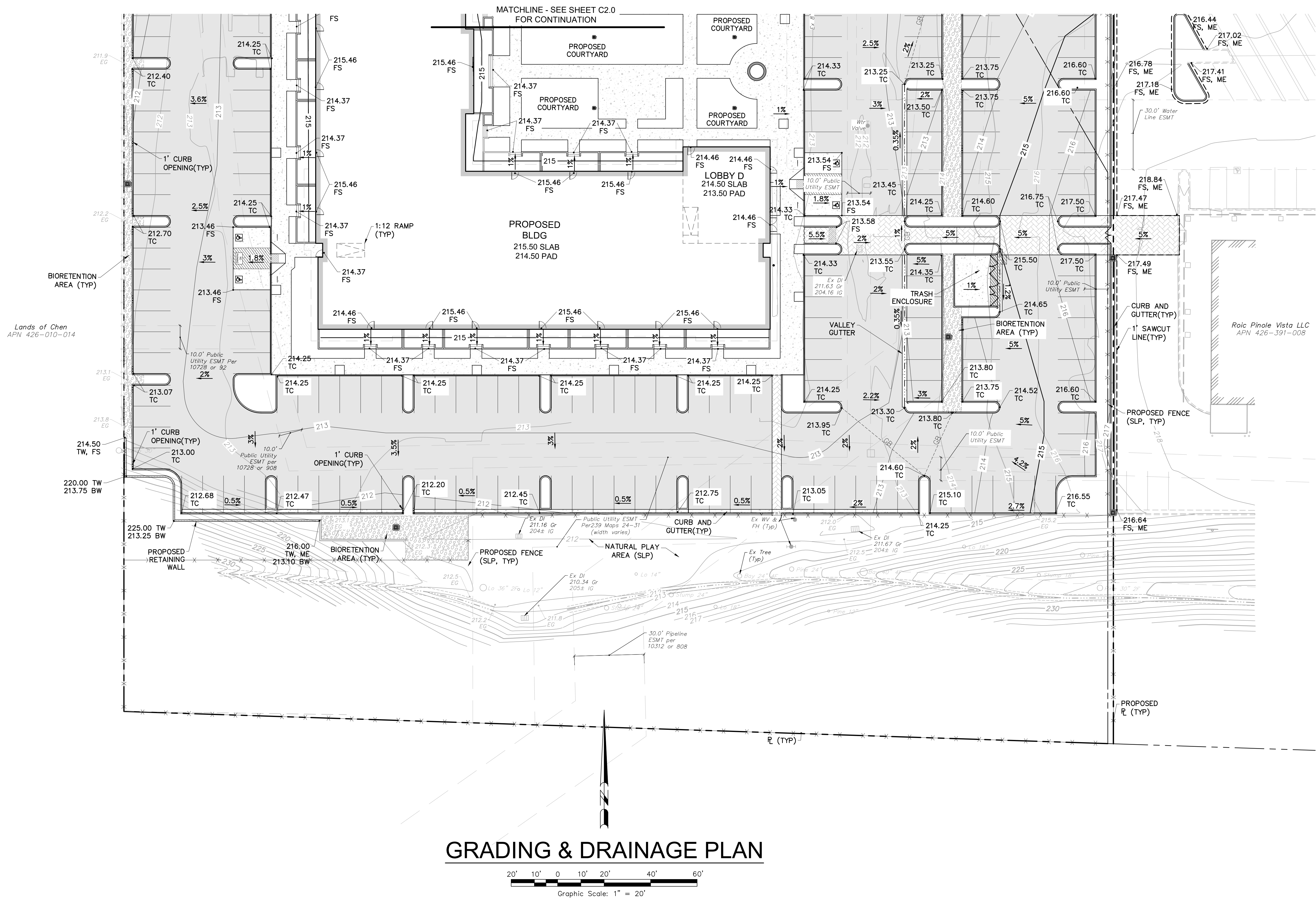
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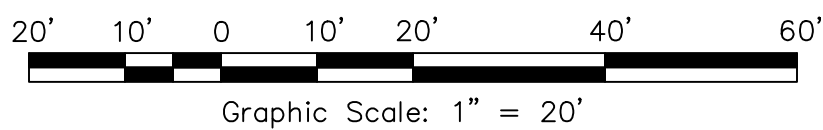
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GRADING & DRAINAGE PLAN

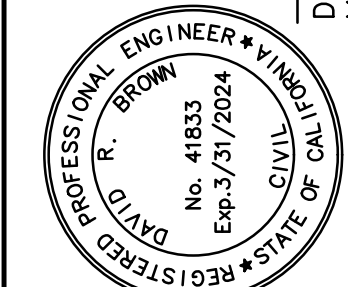


PINOLE MIXED USE
GRADING & DRAINAGE PLAN

1500 Fitzgerald Drive
Pinole, California
APN 125-551-016

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① INSTALL APPROVED TRASH CAPTURE DEVICE

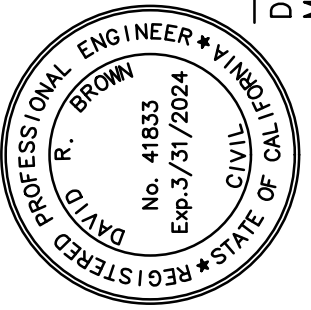
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PINOLE MIXED USE UTILITY PLAN

1500 Fitzgerald Drive
Pinole, California
APN 125-551-016

SCALE: AS SHOWN

Date: August 19, 2022

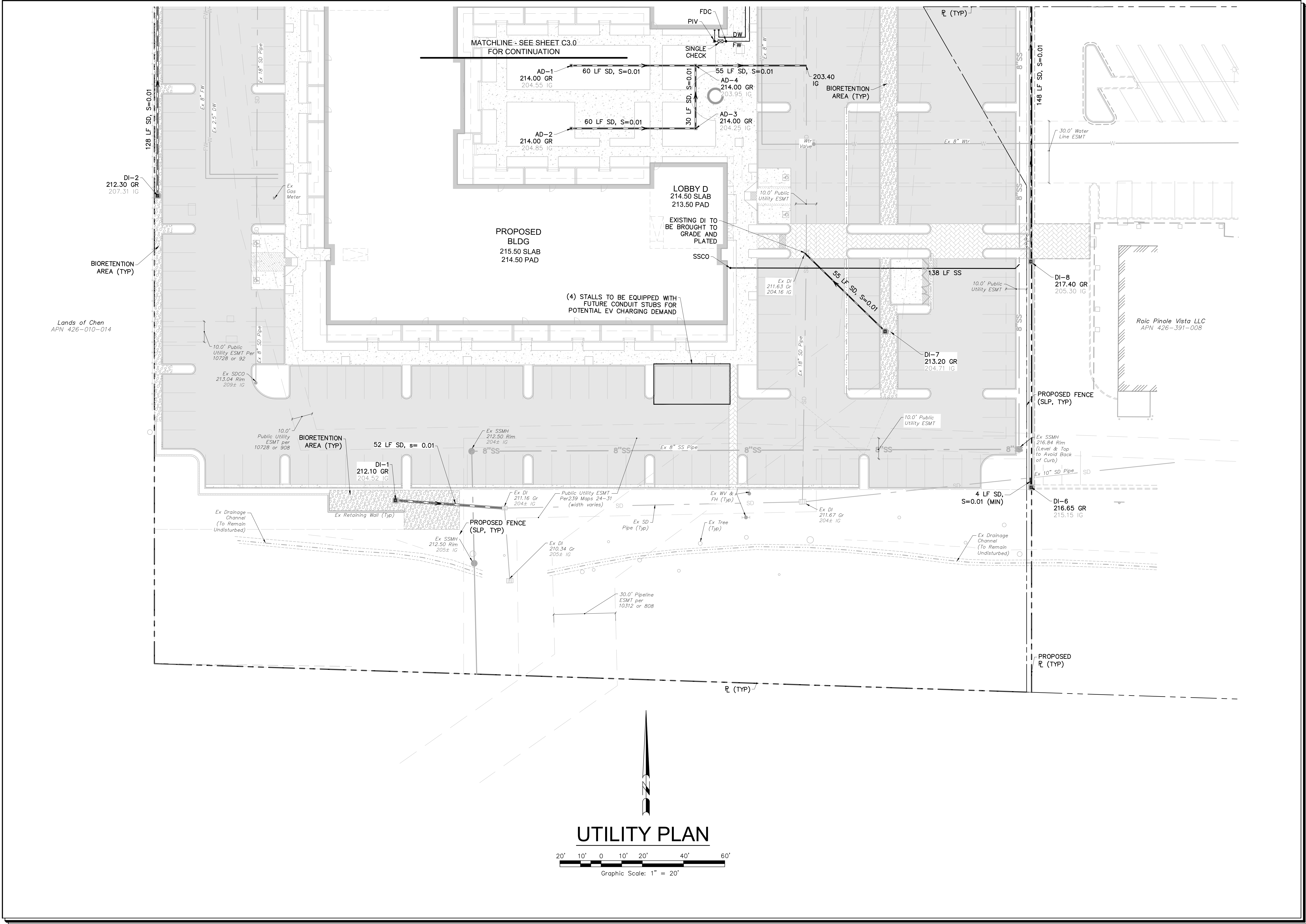
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**PINOLE MIXED USE
UTILITY PLAN**
1500 Fitzgerald Drive
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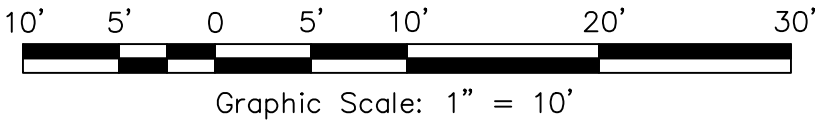
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NOTE:
THE (2) BUS BENCHES, ON EITHER SIDE OF FITZGERALD, TO BE CONVERTED TO COVERED BUS SHELTERS (DESIGN TO BE DETERMINED)

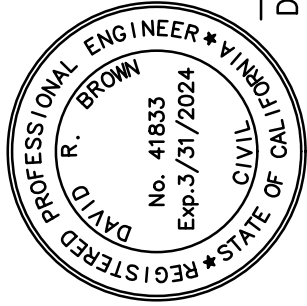
FITZGERALD DRIVE SIGNING & STRIPING PLAN



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PINOLE MIXED USE

1500 Fitzgerald Drive
Pinole, California
APN 125-551-016



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USA NOTE
IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS UNDER ROADWAYS AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 OR 1-800-227-2600 TO FIELD LOCATE ALL EXISTING UTILITIES.



PRELIMINARY TREE LEGEND					
SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	WATER USE PER MUCCOLS IV	QUANTITY
TREES					
ACI	#24	Acer circinatum	Vine Maple	.6	4
AFS	#24	Acer palmatum 'Seiryu'	Seiryu Japanese Maple	.6	2
AFB	#24	Acer palmatum var. atropurpureum 'Bloodgood'	Bloodgood Japanese Maple	.6	12
ARA	#24	Acer rubrum 'Armstrong'	Armstrong Maple	.6	27
GOC	#15	Cercis occidentalis	Western Redbud	.1	2
CEA	#24	Cornus florida x nuttallii 'Eddie's White Wonder'	Eddie's White Wonder Dogwood	.6	4
LN	#24	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	.3	26
LFL	#24	Lyonothamnus floribundus subsp. asplenifolius	Catalina Ironwood	.3	6
MCA	#24	Morella californica	Pacific Wax Myrtle	.6	4
OES	#24	Olea europaea 'Swan Hill'	Fruitless Olive	.1	4
FCR	#24	Pistacia chinensis 'Keith Davey'	Chinese Pistache	.3	6
QAG	#24	Quercus agrifolia	Coast live oak	.1	3
GTO	#24	Quercus tomentella	Island Oak	.3	10
UPD	#24	Ulmus parvifolia 'Drake'	Drake's Chinese Elm	.3	49
BIORETENTION AREAS					
		Sod	Bioretention Sod	0.3	Delta Bluegrass (CA Natives)

TYPICAL PLANT PALETTE				
BOTANICAL NAME	COMMON NAME	SIZE	WATER USE PER MUCCOLS IV	COMMENTS
Shrubs				
Arctostaphylos densiflora 'Harmony'	Harmony Manzanita	#5	.3	California Native
Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Dwarf Japanese Barberry	#5	.6	
Callistemon citrinus 'Little John'	Dwarf Bottlebrush	#5	.3	
Camellia sasanqua 'White Doves'	Camellia White Doves	#5	.6	
Carpenteria californica 'Elizabeth'	Elizabeth Bush Anemone	#5	.3	California Native
Ceanothus maritimus 'Valley Violet'	Valley Violet Ceanothus	#5	.3	California Native
Ceanothus x 'Concha'	Concha California Lilac	#5	.3	California Native
Cercis occidentalis	Western Redbud	#15	.1	California Native
Glaucomeles speciosa 'Scarlet Storm'	Scarlet Storm Flowering Quince	#5	.3	
Daphne odora 'Aureo-marginata'	Variiegated Winter Daphne	#5	.3	
Euonymus japonicus 'Moerens'	Silver Princess™ Boxleaf Euonymus	#5	.3	
Fremontodendron californicum	Flannel Bush	#5	.1	California Native
Lavandula x intermedia 'Phenomenal'	Phenomenal French Lavender	#5	.3	
Loropetalum chinense 'Kurena'	Jazz Hands Dwarf Pink Chinese Fringe-flower	#5	.3	
Nandina domestica 'Compacta'	Dwarf Heavenly Bamboo	#5	.3	
Pittosporum tobira 'Wheeler's Dwarf'	Wheeler's Dwarf Japanese Mock Orange	#5	.3	
Rhamnus californica 'Mound San Bruno'	Mound San Bruno Coffee Berry	#5	.3	California Native
Rhapiolepis indica 'Clara'	Clara Indian Hawthorn	#5	.3	California Native
Sarcococca nuscifolia	Fragrant Sweet Box	#5	.3	
Perennials				
Achillea millefolium 'Salmon Beauty'	Salmon Beauty Yarrow	#1	.3	California Native
Achillea millefolium 'Sonoma Coast'	White Yarrow	#1	.3	California Native
Agapanthus praecox orientalis 'Snow Storm'	Snow Storm Lily Of The Nile	#5	.6	
Aspidistra elatior	Cast Iron Plant	#1	.3	
Erigeron glaucus 'Wayne Roderick'	Wayne Roderick Fleabane	#1	.6	California Native
Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	#1	.3	
Perovskia atriplicifolia 'Blue Spire'	Russian Sage	#1	.3	
Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	#5	.3	
Salvia 'Celestial Blue'	Purple Sage	#1	.3	
Salvia leucantha	Mexican Bush Sage	#5	.3	
Salvia x jamensis 'Ignition Purple'	Ignition Purple Salvia	#1	.3	
Groundcover				
Ornamental Grasses				
Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Ornamental Grass	#1	.3	California Native
Calamagrostis 'Tolios'	Mendocino Reed Grass	#1	.6	California Native
Carex divisa	Berkeley Sedge	#1	.3	
Carex tumicola	Foothill Sedge	#1	.3	California Native
Festuca mairei	Atlas Fescue	#1	.3	
Muhlenbergia dubia	Pine Muhly	#1	.3	
Muhlenbergia rigens	Deer Grass	#1	.3	California Native
Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	#1	.3	
Other				
Mulch: Fir Bark 1-1/2" Minus	Medium Peak-On Bark			3" Depth, All Landscape Areas
Linear Root Barrier	Root Solutions , or Equal			24" Depth, Continuous

CONCEPTUAL LANDSCAPE
Scale: 1" = 30'-0"

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REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
NO. 2800
EXP. 06/30/23
STATE OF CALIFORNIA

MACNAIR
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ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CALIFORNIA 94542
TEL 925.833.2288
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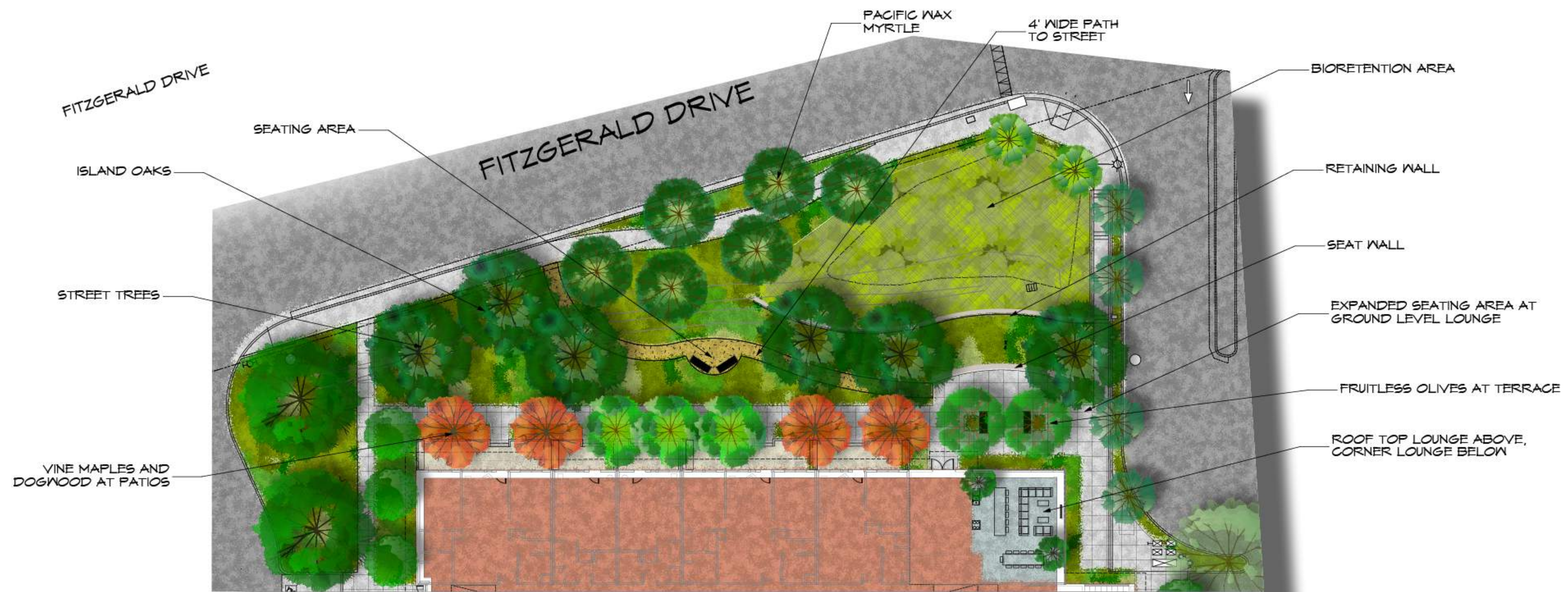
CONCEPTUAL
LANDSCAPE

PINOLE MIXED-USE
1500 FITZGERALD DRIVE
PINOLE, CA 94564

DATE: 9/13/22
MLA JOB #: 2020-28
SCALE: 1" = 30'
DRAWN: DM

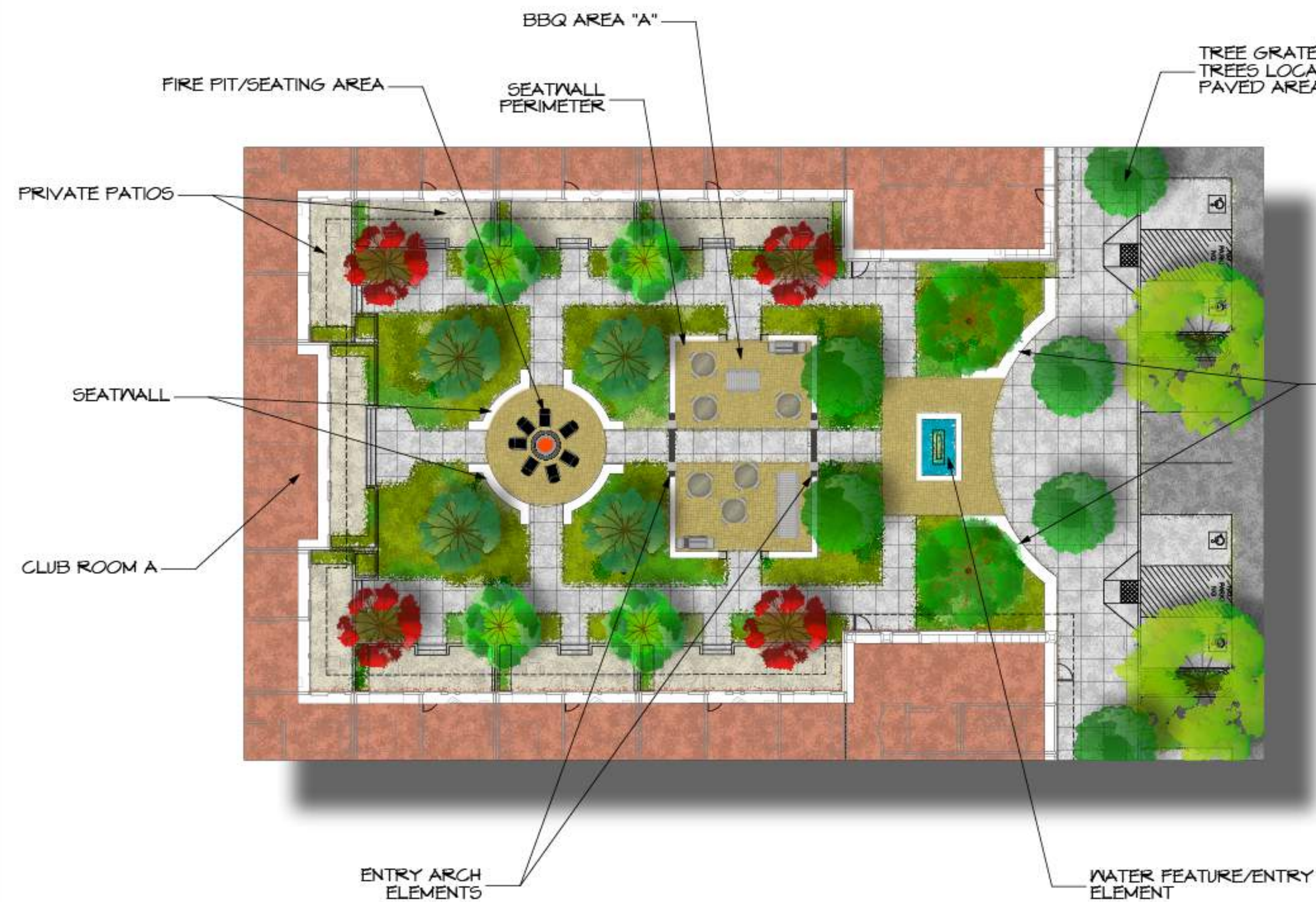
L1.1

SHEET L1.1 OF 6
Page 148 of 945



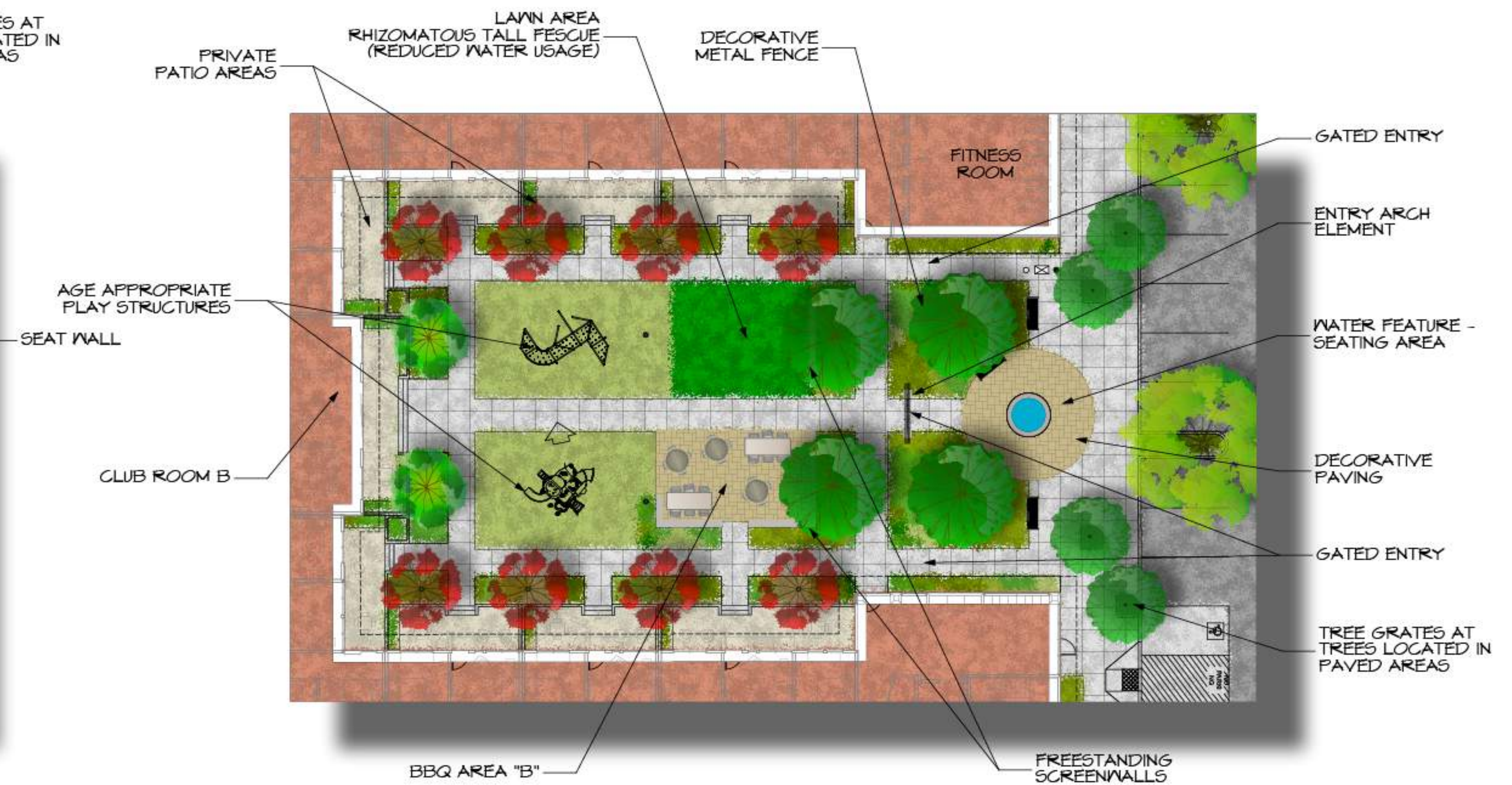
STREETSIDE COMMON SPACE

Scale: 1/16" = 1'-0"



COURTYARD A

Scale: 1/16" = 1'-0"



COURTYARD B

Scale: 1/16" = 1'-0"

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COMMON AREA

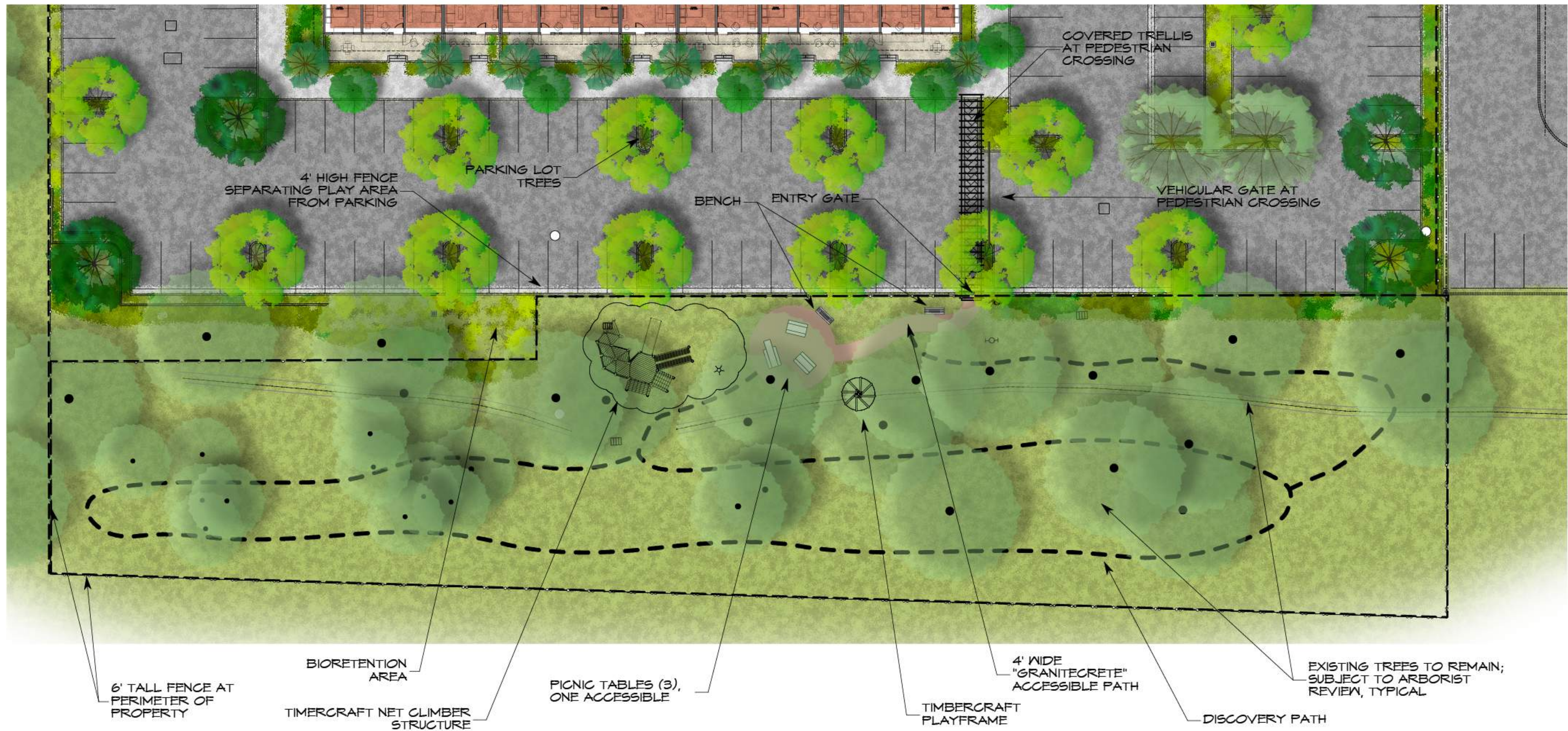
PINOLE MIXED-USE

1500 FITZGERALD DRIVE
PINOLE, CA 94564

DATE: 9/13/22
MLA JOB #: 2020-28
SCALE: 1" = 30'
DRAWN: DM

L1.2

SHEET L1.2 OF 6
Page 149 of 945



HILLSIDE PARK AREA
Scale: 1/16" = 1'-0"



MOBIUS CLIMBER 6-PANEL
COURTYARD B NORTH



MOTION
COURTYARD B SOUTH



TIMBERCRAFT NET CLIMBER
HILLSIDE PARK AREA



TIMBERCRAFT PLY FRAME
HILLSIDE PARK AREA

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HILLSIDE PARK AREA

PINOLE MIXED-USE

1500 FITZGERALD DRIVE
PINOLE, CA 94564

DATE: 9/13/22
MLA JOB #: 2020-28
SCALE: 1" = 30'
DRAWN: DM

L1.3

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TREE IMAGES



ACER PALMATUM
'BLOODGOOD'



ACER PALMATUM 'SERIYU'



ACER RUBRUM
'ARMSTRONG'



CORNUS
'EDDIE'S WHITE WONDER'



CERCIS OCCIDENTALIS



LAGERSTROMIA INDICA
'NATCHEZ'



LYONOTHAMNUS
FLORIBUNDUS SUBSP.
ASPENIIFOLIUS



MORELLA CALIFORNICA



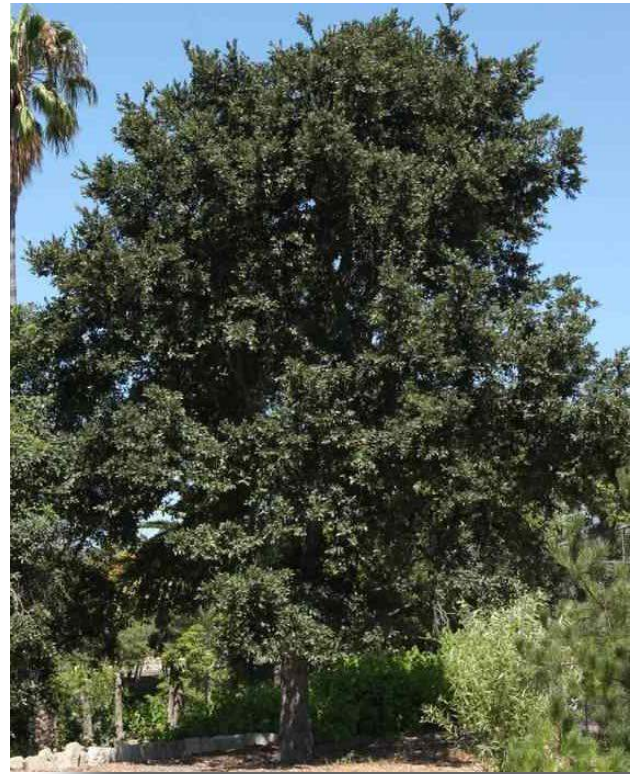
OLEA EUROPAEA
'SWAN HILL'



PISTACIA CHINENSIS
'KEITH DAVEY'



QUERCUS AGRIFOLIA



QUERCUS TOMENTELLA



ULMUS PARVIFOLIA
'DRAKE'

PINOLE MIXED-USE

1500 FITZGERALD DRIVE
PINOLE, CA 94564

DATE: 8/19/22
MLA JOB #: 2020-28
SCALE: 1" = 50'
DRAWN: DM

U.S.A NOTE
IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 OR 1-800-221-2600 TO FIELD LOCATE ALL EXISTING UTILITIES.

IRRIGATION AND HYDROZONE KEYNOTES

- CROSS HATCHED AREAS INDICATE BIORETENTION WITH ECOMAT
- GREEN AREA DESIGNATES "LOW WATER USE" PLANT SPECIES
- YELLOW AREA DESIGNATES "MODERATE WATER USE" PLANT SPECIES
- INGROUND PLANTER AREAS IN PATIOS
- INSTALL DRIPLINE 3" BELOW GRADE IN ALL RAISED PLANTERS AT 24" OC TYPICAL; ALL DRIPLINE SHALL BE INSTALLED PARALLEL AND HELD BACK FROM EDGE 1/2 THE ROW SPACING.
- ROOF TOP TERRACE
- LAWN AREA (OR OPTIONAL ARTIFICIAL TURF)
- TREE BUBBLERS, TWO PER TREE, TYPICAL, ONE ABOVE GRADE STREAM BUBBLER AND ONE SUB-SURFACE BUBBLER
- ECOMAT: INSTALL 4" BELOW GRADE IN BIORETENTION AREAS AT 14" OC; LOW WATER USE, TYPICAL
- 4" SQUARE TREE WELL WITH TREE GRATE, TYPICAL IN PAVED AREAS
- BLUE AREA DESIGNATES "VERY LOW WATER USE" PLANT SPECIES
- WATER FEATURE - "HIGH WATER USE"
- TREE HYDROZONE AREAS ARE CALCULATED WITH A 6" WETTED DIAMETER (20.26 SF PER TREE).

MAWA AND ETWU CALCULATIONS

1) Maximum Applied Water Allowance (MAWA)

MAWA = (ETO) (0.62) [(0.55 X LA) + (0.45 X SLA)]

Where:
ETO = Annual Net Reference Evapotranspiration (inches)
0.45 = ET Adjustment Factor (Commercial)
0.55 = ET Adjustment Factor (Residential)
LA = Landscaped Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.45 = the additional ET adjustment factor for Special Landscape Area (1.0 - 0.55 = 0.45) (Commercial)
0.55 = the additional ET adjustment factor for Special Landscape Area (1.0 - 0.45 = 0.55) (Residential)

Commercial (C) or Residential (R) C

A) Net Evapotranspiration Calculation

Local Reference ETO	41.60			
26.70"/yr (Annual Rainfall)	X	.25	=	6.60 (Effective Rainfall)
Net Evapotranspiration Calculation = Annual ETO - Effective Rainfall				
				= 35.13

B) Adjusted Landscape Area Calculation

40,656 sf (Landscape Area)	X	0.45 Adjustment Factor	=	18,295.42 sf
0.00 sf (Special Landscape Area)	X	0.55 Adjustment Factor	=	0.00 sf
Sum of Adjusted Landscape Area				
			=	18,295.42 sf

MAWA = 35.125 X .62 X 18,295 sf = 398,424 gal/yr

2) Estimated Total Water Use (ETWU)

A) Net Evapotranspiration Calculation

				= 35.13 sf
--	--	--	--	------------

B) Adjusted Landscape Area Calculation

254.47 sf Very Low Water Use	X	1	=	25.45 sf
31,455 sf Low Water Use	X	.3	=	11,230.49 sf
2,879 sf Moderate Water Use	X	.6	=	1,727.29 sf
50.27 sf High Water Use / Water Feature	X	.8	=	7.06 sf
Sum of Adjusted Landscape Area				
			=	12,440.29 sf

ETWU = 35.13 X .62 X 12,440 sf / 0.81 = 353,620 gal/yr

Irrigation Efficiency Factor

Square Footage of Landscape on Drip	40,026.45 sf
Square Footage of Landscape on Spray	941.71 sf
Total Square Footage of Landscape	40,968.22 sf
Adjusted Irrigation Efficiency Factor	0.81

CONCEPT HYDROZONE DETAIL TABLE

Name	Method	Water Use	Water Use Value	Hydrozone Area in SF	% of Landscape
Bioretention	ECOMAT	Low	0.3	5,624.15 sf	21.2%
Lawn	Overhead Spray	Moderate	0.6	541.71 sf	1.3%
Patio Planters	Sub-Surface Dripline	Low	0.3	112.32 sf	0.4%
Patio Planters	Sub-Surface Dripline	Moderate	0.6	100.52 sf	1.1%
Roof	Sub-Surface Dripline	Low	0.3	20.45 sf	0.2%
Shrub Areas	Sub-Surface Dripline	Low	0.3	26,262.24 sf	64.1%
Tree	Root Watering System	Very Low	0.1	226.14 sf	0.6%
Tree	Root Watering System	Low	0.3	2,315.67 sf	6.3%
Tree	Root Watering System	---	0.6	1,511.35 sf	3.4%
Water Feature	Water Feature	High	1	20.27 sf	0.2%
					100%

CONCEPT SUMMARY HYDROZONE TABLE

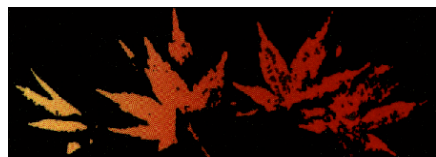
PLANT TYPE	AREA	% OF LANDSCAPE
Very Low	254.47	1%
Low	31,454.96	42%
Moderate	2,879.01	7%
High	50.27	0%
Total	40,656.51	100%

TYPICAL IRRIGATION EQUIPMENT

EQUIPMENT	MANUFACTURER	MODEL	REMARKS
STREAM BUBBLER 6" POP-UP	HUNTER	PROS-06-CV-RPRS30-MSBN-25Q	TREE WELL BUBBLER, AIM AT ROOT BALL; 1 PER TREE
ROOT WATERING SYSTEM	HUNTER	RZWS-18-25-CV	1 PER TREE
1" NORMALLY CLOSED MASTER VALVE	HUNTER	ICV-101C	INSTALL DOWNSTREAM FROM BACKFLOW PREVENTER
REMOTE CONTROL VALVE: TREE BUBBLER	HUNTER	ICV-101G-AS-ADJ	TREE BUBBLER CIRCUIT VALVE; SEE PLAN FOR SIZE
REMOTE CONTROL VALVE: DRIP CIRCUIT	HUNTER	ICZ-101-LF-25, ICZ-101-25	DRIP CIRCUIT VALVE
6 STATION BASE CONTROLLER (2 WIRE CONFIGURATION)	HUNTER	IC-600-SS	MOUNT ON PANEL AT EYE LEVEL
DUAL DECODER MODULE	HUNTER	DUAL-1, DUAL-2, DUAL-S	
DUAL SURGE ARRESTOR	HUNTER	DUAL-S	
DUAL DECODER OUTPUT MODULE	HUNTER	DUAL-48M	
SOLAR SYNC SENSOR (WIRELESS)	HUNTER	WSS-SEN	MOUNT AT ROOF LINE ABOVE CONTROLLER LOCATION
R.P. BACKFLOW PREVENTER - 1"	FEBCO	860U	
BACK FLOW PREVENTER ENCLOSURE	LE MEUR	BF 18" X 30" X 30"	INSTALL PER MANUF. SPECS
QUICK COUPLER W/ COVER	CHAMPION	QCV-075V	SEE PLAN FOR SIZE
BALL VALVE IN VALVE BOX	WATTS	B6400 SERIES	MATCH MAINLINE SIZE; REFER TO DETAIL
AUTOMATIC LINE FLUSH VALVE	HUNTER	AFV-T	INST. IN 6" VALVE BOX @ END OF CIRCUIT
AIR RELIEF VALVE	HUNTER	AVR-075	INST. IN 6" VALVE BOX @ HIGH POINT OF CIRCUIT
PIPE AND WIRE CHASE	PVC	CL 200	SEE PLAN FOR SIZE
SUB-SURFACE BIOSWALE IRRIGATION	HUNTER	ECO-MAT 17MM	INSTALL 4" BELOW GRADE ALL BIOSWALE AREAS
POLY TO PVC CONNECTOR W/ COMPRESSION FITTING		SEE DETAIL G/L3	
LANDSCAPE DRIPLINE	RAINBIRD	XFS-06-12-XX	INSTALL 3" BELOW GRADE @ SPACING SHOWN
MAINLINE	PVC	SCH 40 (1-1/2" AND SMALLER)	
LATERAL	PVC	SCH 40	
FLOW SENSOR	CST	FSI-T10-000	INSTALL AT POINT OF CONNECTION
WATER METER			REFER TO CIVIL DRAWINGS

CONCEPT IRRIGATION PLAN
Scale: 1" = 30'-0"

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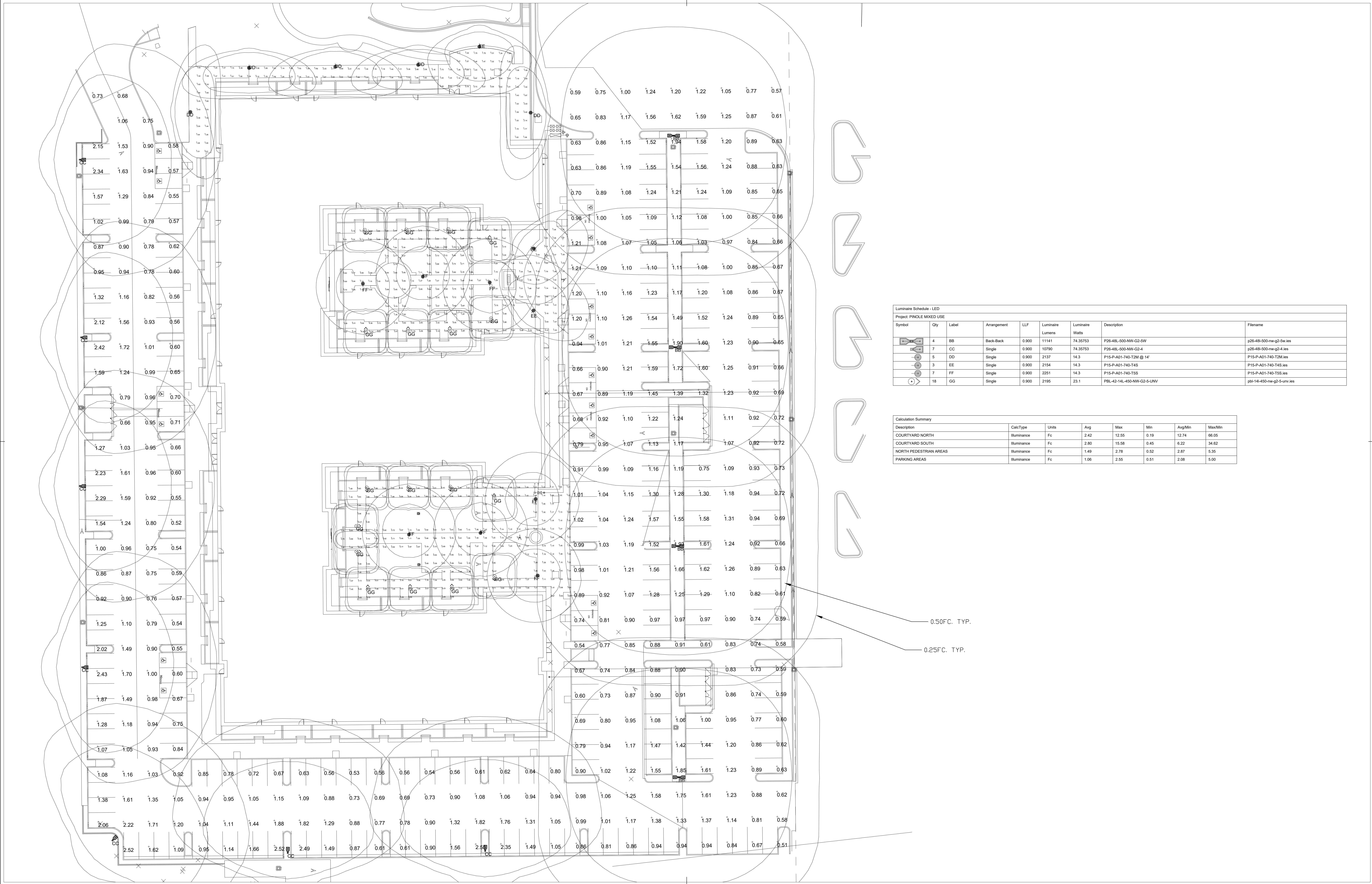
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don@macnairlandscape.com

CONCEPT IRRIGATION
PLAN

PINOLE MIXED-USE
1500 FITZGERALD DRIVE
PINOLE, CA 94564

DATE: 9/13/22
MLA JOB #: 2020-28
SCALE: 1" = 30'
DRAWN: DM

L2.1



Luminaire Schedule - LED								
Project: PINOLE MIXED USE								
Symbol	Qty	Label	Arrangement	LLF	Luminaire Lumens	Luminaire Watts	Description	Filename
	4	BB	Back-Back	0.900	11141	74.35753	P26-48L-500-NW-G2-SW	p26-48l-500-nw-g2-sw.ies
	7	CC	Single	0.900	10790	74.35753	P26-48L-500-NW-G2-4	p26-48l-500-nw-g2-4.ies
	5	DO	Single	0.900	2137	14.3	P15-P-A01-740-T2M @ 14"	P15-P-A01-740-T2M.ies
	3	EE	Single	0.900	2154	14.3	P15-P-A01-740-T4S	P15-P-A01-740-T4S.ies
	7	FF	Single	0.900	2251	14.3	P15-P-A01-740-T5S	P15-P-A01-740-T5S.ies
	18	GG	Single	0.900	2195	23.1	PBL-42-14L-450-NW-G2-S-UNV	pbl-14l-450-nw-g2-s-unv.ies

Calculation Summary							
Description	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
COURTYARD NORTH	Illuminance	Fc	2.42	12.55	0.19	12.74	66.05
COURTYARD SOUTH	Illuminance	Fc	2.80	15.58	0.45	6.22	34.62
NORTH PEDESTRIAN AREAS	Illuminance	Fc	1.49	2.78	0.52	2.87	5.35
PARKING AREAS	Illuminance	Fc	1.06	2.55	0.51	2.08	5.00

0.50FC. TYP.

0.25FC. TYP.

ALL VALUES SHOWN ARE MAINTAINED HORIZONTAL FOOTCANDLES AT GRADE

PHOTOMETRIC DATA USED AS INPUT FOR THESE CALCULATIONS IS BASED ON ESTABLISHED IES PROCEDURES AND PUBLISHED LAMP, RATINGS. FIELD PERFORMANCE WILL DEPEND ON ACTUAL LAMP, BALLAST, ELECTRICAL, AND SITE CHARACTERISTICS.

Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

Associated Lighting Representatives, Inc.

ASSOCIATED LIGHTING REPRESENTATIVES, INC
7777 PARADISE LANE
P.O. BOX 2265
OAKLAND, CA 94621
PHONE: (510) 638-0158 - FAX (510) 638-2908

REPORT FOR: MACNAIR LANDSCAPE ARCHITECTURE
BY: APPLICATIONS ENGINEERING; RAMON ZAPATA
SALES REPRESENTATIVE: ALR: TIM HALEY



AGI32 VERSION 20.1
AGI (C) 2021 LIGHTING ANALYSTS, INC.
10268 W. CENTENNIAL ROAD, SUITE 202
LITTLETON, CO 80127

PROJECT DESCRIPTION

PINOLE MIXED USE

DRAWING NO. / INPUT FILE

19968HAL.DWG / 19968HAL.A32

SCALE

1" = 20'

SHEET

1 OF 1

DATE

05.13.2022

REV

X



Ragghianti|Freitas LLP

Attorneys at Law

1101 5th Avenue, Suite 100
San Rafael, CA 94901
telephone 415.453.9433
facsimile 415.453.8269
www.rflawllp.com

Riley F. Hurd III
rhurd@rflawllp.com

April 22, 2024

Via E-Mail Only

David Hanham
Planning Manager
City of Pinole
Development Services Department
2131 Pear Street
Pinole, CA 94564

**Re: Application for extension of Comprehensive Design Review
(DR21-12); Tree Removal Permit; and Density Bonus Request for Pinole
Vista Development (PL21-0035).**

Dear Mr. Hanham:

Our office continues to represent Chris Cole/Metrovation ("Applicant") and are assisting in Applicant's efforts to apply for a two-year time extension of the above-referenced project approvals for the Pinole Vista Development ("Project") located at 1500 Fitzgerald Drive, Pinole. This request is made pursuant to Pinole Municipal Code § 17.10.100.C.

The Project is a 223-unit multi-family, 5-story residential housing development located on approximately 5.9 acres at 1500 Fitzgerald Drive, Pinole. Condition 6 of the Conditions of Approval of Resolution 2022-96, states,

"Exercise of Entitlements- The applicant has two (2) years to exercise the entitlement. Entitlements shall be considered exercised when a Building Permit is are (sic) issued for the apartment structure. . . ."

The Project entitlements are currently set to expire on October 18, 2024. The two-year extension is requested because despite diligent efforts to exercise the permits, market conditions have prohibited the Project from moving forward. These conditions include: abnormally high interest rates; extremely high construction costs; lack of developer interest in a project with a union labor agreement; and rent escalation not matching



Ragghianti|Freitas LLP

Page 2 of 2

development cost escalation. Additionally, the original permit findings can be made. There are no revisions or changes in design proposed as part of this extension request and there are no changed circumstances.

Despite these challenges, the Applicant remains committed to the completion of the Project. An extension will result in the best chance of much-needed housing being built at the site.

Thank you.

Very truly yours,

A handwritten signature in blue ink, reading 'Riley F. Hurd III'. The signature is written in a cursive, flowing style.

Riley F. Hurd III

CC: Client



CITY COUNCIL REPORT

11.A.

DATE: AUGUST 20, 2024

TO: MAYOR AND COUNCIL MEMBERS

FROM: KAPIL AMIN, SUSTAINABILITY FELLOW
LILLY WHALEN, COMMUNITY DEVELOPMENT DIRECTOR

SUBJECT: APPROVE RESOLUTIONS ADOPTING AN INITIAL STUDY-NEGATIVE DECLARATION (IS-ND) FOR THE CAAP AND ADOPTING PINOLE'S INAUGURAL CLIMATE ACTION AND ADAPTATION PLAN (CAAP)

RECOMMENDATION

Staff recommends City Council:

1. Receive a presentation regarding Pinole's inaugural Climate Action and Adaptation Plan (CAAP)
2. Approve the draft Resolution (**Attachment A**), adopting the CAAP's Initial Study-Negative Declaration (IS-ND) (**Attachment B**)
3. Approve the draft Resolution (**Attachment C**), adopting Pinole's CAAP (**Attachment D**)

BACKGROUND

After two years of engagement via surveys, public workshops, pop-ups, focus groups, and internal review, the City released a public review draft of its inaugural CAAP on April 19, 2024. The CAAP is a "greenprint" to bring Pinole to zero carbon emissions by the year 2045, aligning with Senate Bill 32 and Executive Order B-55-18. At the May 7, 2024 City Council meeting, staff presented the public review draft of the CAAP; Council received comments from the public and provided direction for further refinement of the draft Plan. The staff report for the May 7, 2024 CAAP item is provided as **Attachment E**.

REVIEW AND ANALYSIS

Revisions to the CAAP

Following the May 7 meeting, and due to the extensive length of the public review draft of the CAAP, Staff focused on revamping and streamlining the review process to make it easier for the public to review and comment. Short social media "teasers" focusing on different topics within the CAAP were released to generate interest and engagement. Additionally, to gather diverse feedback, outreach was conducted at Pinole Valley High School and the draft was electronically disseminated to multi-family housing residents through property managers. Public comments on the draft were accepted until July 31, 2024.

A table showing revisions made to the draft CAAP since the May 7 meeting is provided in **Attachment F**. Based on specific feedback from Council and the community, the following

revisions were made to the public review draft:

- Action TR-4k was updated to add educational efforts to dispel environmental concerns with EV battery disposal after research found their recyclability to be extremely high¹
- Action SW-5 has been assigned to implementation phase 1
- A new action, BE-2o, was added in order to explore a revolving fund for the community in order to simplify and accelerate various decarbonization measures
- Action TR-1d was changed from "entity" to "entities" in order to capture a greater opportunity for potential collaboration to expand rebate programs that bolster alternative modes of transportation
- In action BE-3d the word "phase" was updated to "stage" to eliminate confusion with the implementation phases of the plan
- Some actions in the CAAP were completed during the review process and updates were made accordingly to reflect that current progress
- The following actions were moved from implementation phase 2 to phase 1 after re-evaluating their degree of urgency:
 - Action SW-2j
 - Action CAR-1f
 - Action CAR-2i
 - Action FL-1e
 - Action WF-1h
 - Action TR-1c

California Environmental Quality Act (CEQA)

Pinole's CAAP further serves as a Qualified Climate Action Plan which can streamline the environmental review process of GHG emissions generated from future development projects. A draft Initial Study/Negative Declaration (IS-ND) was prepared pursuant to the California Environmental Quality Act (CEQA) and was released on June 17, 2024 for public review and comment. One comment letter was received from East Bay Municipal Water District. All comments on the public review draft and draft IS-ND were considered and incorporated as appropriate. The IS-ND is provided as **Exhibit A** to **Attachment A**.

Final CAAP and Implementation

The final CAAP is provided as **Exhibit A** to **Attachment B**. Once adopted, the CAAP will also be accompanied by an online dashboard, CAPDash, that will transparently help the City and community monitor progress towards CAAP goals. Additionally, progress reports, GHG inventory updates, and technological advancements will inform updates to the CAAP every 5 years.

¹ <https://www.prnewswire.com/news-releases/new-survey-americans-are-increasingly-concerned-about-electric-vehicle-battery-disposal-despite-growth-of-ev-battery-recycling-302011678.html>

FISCAL IMPACT

CAAP projects and programs will vary in cost. The CAAP places the City in a good position to receive funding for these projects. To begin implementing the CAAP, a myriad of grant funding opportunities are available at the state and federal levels. These grant opportunities are identified in the CAAP. Some actions in the CAAP are a continuation of work the City has already been doing with funding set aside. The CAAP will mainly be driven by Staff, and therefore, Staff hours will be necessary for implementation. The CAAP calls for the create a new full-time staff position in the Community Development Department (such as a Sustainability Manager or Coordinator) to oversee CAAP implementation, monitoring, and reporting in addition to cross-department collaboration. For FY 24-25, Sustainability Project Manager Amin will be assigned this role.

ATTACHMENTS

- A. Resolution Adopting the IS-ND for the CAAP
- B. Resolution Adopting the CAAP
- C. Pinole CAAP Final IS-ND
- D. Pinole CAAP Final_08092024 With App
- E. May 7 2024 CC Staff Report - CAAP
- F. Summary Table of CAAP Updates

RESOLUTION NO. 2024-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PINOLE ADOPTING AN INITIAL STUDY-NEGATIVE DECLARATION FOR THE CITY OF PINOLE'S CLIMATE ACTION AND ADAPTATION PLAN

WHEREAS, California is particularly vulnerable to the impacts of climate change and increased temperatures threaten to greatly reduce the Sierra snowpack, one of the State's primary sources of water; and

WHEREAS, increased temperatures also threaten to further exacerbate California's air quality problems and adversely impact human health by increasing heat stress and related deaths, the incidence of infectious disease, and the risk of asthma, respiratory and other health problem; and

WHEREAS, in 2005 the California Governor issued Executive Order (EO) S-3-05 establishing statewide targets for reducing greenhouse gas (GHG) emissions to 2000 levels by 2010, 1990 levels by 2020 , and 80% below 1990 levels by 2050 ; and

WHEREAS, in 2010, the City of Pinole was the first community in Contra Costa County to adopt a Sustainability Element in its General Plan to define objectives and goals for making the city more sustainable; and

WHEREAS, in 2016 the California Legislature adopted Senate Bill (SB) 32 deepening the State's commitment to GHG emissions reductions by tightening the target to 40% below 1990 levels by 2030; and

WHEREAS, in 2018 the California Governor issued EO B-55-18 expanding upon EO S- 3-05 with a statewide target of reaching carbon neutrality by 2045; and

WHEREAS, in 2021 the City of Pinole adopted Resolution No. 2021-93 declaring a Climate Emergency and directing staff to take certain actions; and

WHEREAS, over a 20-month period from December 2022 to October 2023, significant community outreach was conducted including surveys, pop-up events, workshops, and group interviews; and

WHEREAS, 26 state, regional, and local agencies, non-profit groups, and other organizations provided input on the draft CAAP and offered support and partnership to achieve its goals; and; and

WHEREAS, the CAAP establishes a GHG emission reduction target pathway

with the following targets: reduce emissions to 21,512 metric tons of carbon dioxide equivalent communitywide by 2030 (which reduces emissions 40% below 1990 levels called for in SB 32) and achieving carbon neutrality by 2045, which aligns with EO B-55-18); and

WHEREAS, the CAAP contains eight GHG mitigation strategies with 30 measures and 234 actions and five adaptation strategies with eight measures and 69 actions grouped into nine sectors listed below to reduce emissions:

1. Cornerstone
2. Building Energy
3. Transportation
4. Solid Waste
5. Water
6. Carbon Sequestration
7. City Infrastructure and Operations
8. City Governance
9. Climate Adaptation

WHEREAS, the implementation of the CAAP will result in co-benefits including increasing community resilience, improving public health and quality of life, improving habitats and ecosystems, advancing racial and social justice, supporting job creation, and improving mobility and transportation safety; and

WHEREAS, on May 7th, 2024, the City Council was introduced to the CAAP at a public meeting, received feedback from the public and provided direction for next steps; and

WHEREAS, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15183.5 the City may prepare a qualified GHG Reduction Strategy or Climate Action Plan to evaluate a community's cumulative impact due to GHG emission from future planned development; and

WHEREAS, the CAAP is considered a qualified reduction plan through 2030 and if a project is consistent with the CAAP, the Plan can be used as a basis for determining the project would have less than significant impacts on the community's cumulative GHG emissions under CEQA; and

WHEREAS, pursuant to CEQA, an Initial Study prepared for the CAAP wherein it was determined that there is no substantial evidence that the CAAP will have a significant adverse effect on the environment and a Negative Declaration should be prepared; and

WHEREAS, the Initial Study-Negative Declaration was circulated for public review from June 17, 2024 through July 17, 2024; and

WHEREAS, the City of Pinole received one comment letter on the Negative Declaration from East Bay Municipal Utilities District; and

WHEREAS, on August 20, 2024, the City Council held a duly noticed public hearing and considered relevant exhibits, reports, recommendations of City staff, and public testimony set forth herein and set forth prior to making its decision on the CAAP and Negative Declaration.

NOW THEREFORE, BE IT RESOLVED, that the above recitals are true and correct and made part of this resolution.

BE IT FURTHER RESOLVED that the City Council of the City of Pinole does hereby adopt the Negative Declaration attached hereto as **Exhibit A** to the resolution based on the following findings:

1. The City Council considered the Negative Declaration together with comments received during the public review process prior to acting on the CAAP
2. The City Council finds on the basis of the whole record before it that there is no substantial evidence that the CAAP will have a significant adverse effect on the environment.
3. The Negative Declaration has been completed in compliance with CEQA and with the CEQA Guidelines.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Pinole held on the 20th day of August 2024 by the following vote:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

I, hereby certify that the foregoing resolution was regularly introduced, passed, and adopted on the 20th day of August 2024

Heather Bell, CMC
City Clerk

RESOLUTION NO. 2024-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PINOLE ADOPTING THE CLIMATE ACTION AND ADAPTATION PLAN

WHEREAS, California is particularly vulnerable to the impacts of climate change and increased temperatures threaten to greatly reduce the Sierra snowpack, one of the State's primary sources of water; and

WHEREAS, increased temperatures also threaten to further exacerbate California's air quality problems and adversely impact human health by increasing heat stress and related deaths, the incidence of infectious disease, and the risk of asthma, respiratory and other health problem; and

WHEREAS, in 2005 the California Governor issued Executive Order (EO) S-3-05 establishing statewide targets for reducing greenhouse gas (GHG) emissions to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050; and

WHEREAS, in 2010, the City of Pinole was the first community in Contra Costa County to adopt a Sustainability Element in its General Plan to define objectives and goals for making the city more sustainable; and

WHEREAS, in 2016 the California Legislature adopted Senate Bill (SB) 32 deepening the State's commitment to GHG emissions reductions by tightening the target to 40% below 1990 levels by 2030; and

WHEREAS, in 2018 the California Governor issued EO B-55-18 expanding upon EO S- 3-05 with a statewide target of reaching carbon neutrality by 2045; and

WHEREAS, in 2021 the City of Pinole adopted Resolution No. 2021-93 declaring a Climate Emergency and directing staff to take certain actions; and

WHEREAS, over a 20-month period from December 2022 to October 2023, significant community outreach was conducted including surveys, pop-up events, workshops, and group interviews; and

WHEREAS, 26 state, regional, and local agencies, non-profit groups, and other organizations provided input on the draft CAAP and offered support and partnership to achieve its goals; and; and

WHEREAS, the CAAP establishes a GHG emission reduction target pathway

with the following targets: reduce emissions to 21,512 metric tons of carbon dioxide equivalent communitywide by 2030 (which reduces emissions 40% below 1990 levels called for in SB 32) and achieving carbon neutrality by 2045, which aligns with EO B-55-18); and

WHEREAS, the CAAP contains eight GHG mitigation strategies with 30 measures and 234 actions and five adaptation strategies with eight measures and 69 actions grouped into nine sectors listed below to reduce emissions:

1. Cornerstone
2. Building Energy
3. Transportation
4. Solid Waste
5. Water
6. Carbon Sequestration
7. City Infrastructure and Operations
8. City Governance
9. Climate Adaptation

WHEREAS, the implementation of the CAAP will result in co-benefits including increasing community resilience, improving public health and quality of life, improving habitats and ecosystems, advancing racial and social justice, supporting job creation, and improving mobility and transportation safety; and

WHEREAS, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15183.5 the City may prepare a qualified GHG Reduction Strategy or Climate Action Plan to evaluate a community's cumulative impact due to GHG emission from future planned development; and

WHEREAS, the CAAP is considered a qualified reduction plan through 2030 and if a project is consistent with the CAAP, the Plan can be used as a basis for determining the project would have less than significant impacts on the community's cumulative GHG emissions under CEQA; and

WHEREAS, pursuant to CEQA, an Initial Study-Negative Declaration was prepared for the CAAP; and

WHEREAS, on May 7th, 2024, the City Council was introduced to the CAAP at a public meeting, received feedback from the public and provided direction for next steps; and

WHEREAS, on August 20, 2024, the City Council held a duly noticed public hearing and considered relevant exhibits, reports, recommendations of City staff, and public testimony set forth herein and set forth prior to making its decision on the CAAP and Negative Declaration.

NOW THEREFORE, BE IT RESOLVED, that the above recitals are true and correct and made part of this resolution.

BE IT FURTHER RESOLVED that the City Council of the City of Pinole does hereby approve and adopt the Climate Action and Adaptation Plan attached hereto as **Exhibit A** to the resolution and authorizes staff to make any non-substantive grammatical and formatting edits in the final document.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Pinole held on the 20th day of August 2024 by the following vote:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

I, hereby certify that the foregoing resolution was regularly introduced, passed, and adopted on the 20th day of August 2024

Heather Bell, CMC
City Clerk



City of Pinole Climate Action and Adaptation Plan and CEQA GHG Emissions Thresholds

Final Initial Study – Negative Declaration

prepared for

City of Pinole

Community Development Department

2131 Pear Street

Pinole, California 94564

prepared by

Rincon Consultants, Inc.

449 15th Street, Suite 303

Oakland, California 94612

July 31, 2024

Table of Contents

Initial Study	1
Proposed Plan Title	1
Lead Agency/Plan Sponsor and Contact	1
Plan Location and Physical Setting	1
Existing Sustainability Setting	4
General Plan Designation and Zoning	14
Description of Plan	14
Cumulative Projects Scenario	56
Required Approvals	56
Environmental Factors Potentially Affected	58
Determination	58
Environmental Checklist	60
1 Aesthetics	60
2 Agriculture and Forestry Resources	66
3 Air Quality	69
4 Biological Resources	74
5 Cultural Resources	79
6 Energy	81
7 Geology and Soils	84
8 Greenhouse Gas Emissions	88
9 Hazards and Hazardous Materials	92
10 Hydrology and Water Quality	97
11 Land Use and Planning	101
12 Mineral Resources	103
13 Noise	104
14 Population and Housing	108
15 Public Services	110
16 Recreation	112
17 Transportation	114
18 Tribal Cultural Resources	117
19 Utilities and Service Systems	120
20 Wildfire	125
21 Mandatory Findings of Significance	127
References	129
1. List of Preparers	132

Tables

Table 1 Pinole 2017 Communitywide GHG Emissions Levels16

Table 2 Pinole CAAP GHG Emissions Reduction and Climate Adaptation Strategies, Measures, and Actions17

Table 3 Pinole 2030 GHG Emissions Forecasts (MT of CO₂e)52

Table 4 Targets Versus GHG Reductions53

Table 5 Cumulative Projects Scenario56

Figures

Figure 1 Regional Location2

Figure 2 Plan Location3

Figure 3 Pinole Transit Routes4

Figure 4 Pinole GHG Emissions Projections and Targets52

Figure 5 Determining CEQA GHG Emissions Analysis Methodology55

Appendices

Appendix A Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Appendix B Description of Greenhouse Gases of California Concern

Initial Study

Proposed Plan Title

City of Pinole Climate Action and Adaptation Plan (CAAP) and California Environmental Quality Act (CEQA) Greenhouse Gas (GHG) Emissions Thresholds

Lead Agency/Plan Sponsor and Contact

Lead Agency/Plan Sponsor

City of Pinole
Community Development Department
2131 Pear Street
Pinole, California 94564

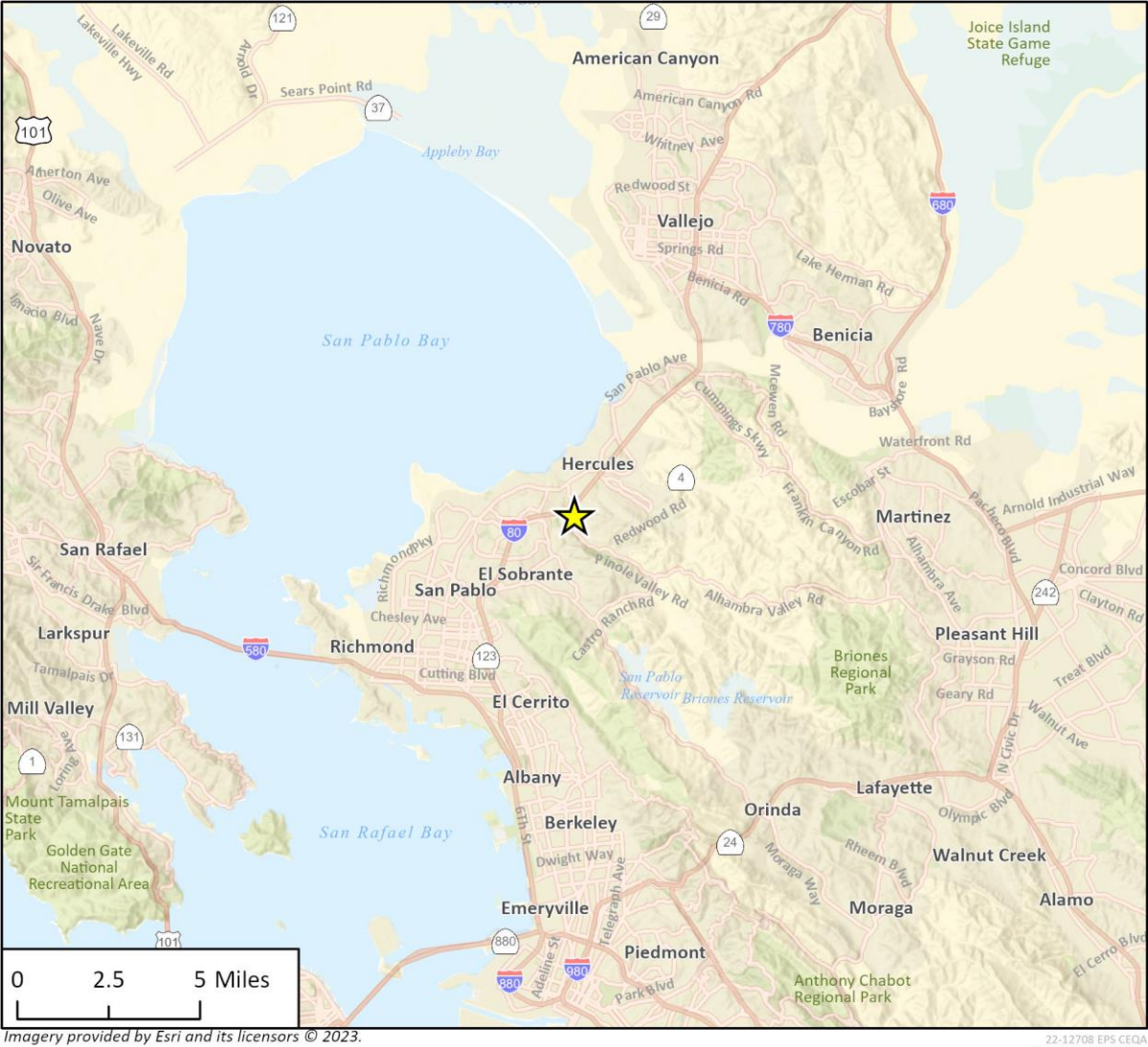
Contact Person

Lilly Whalen
Community Development Director
(510) 724-9832
lwhalen@ci.pinole.ca.us

Plan Location and Physical Setting

The Pinole CAAP and CEQA GHG Emissions Thresholds would apply to all areas and plans and projects within the City of Pinole limits. Figure 1 shows the regional location, and Figure 2 shows the plan location.

Figure 1 Regional Location



★ City of Pinole

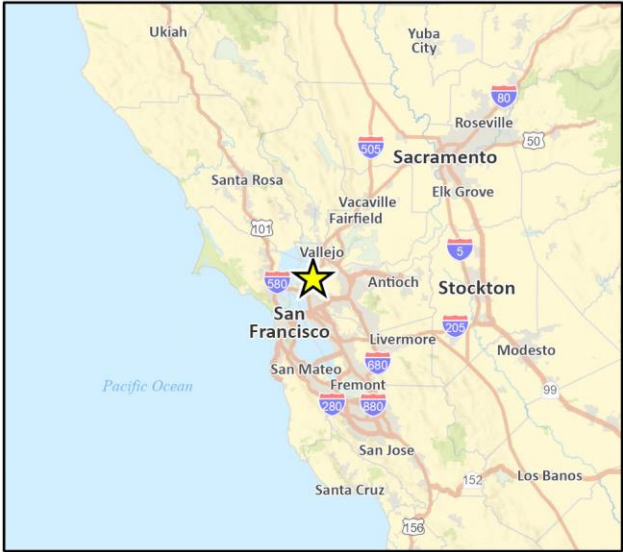
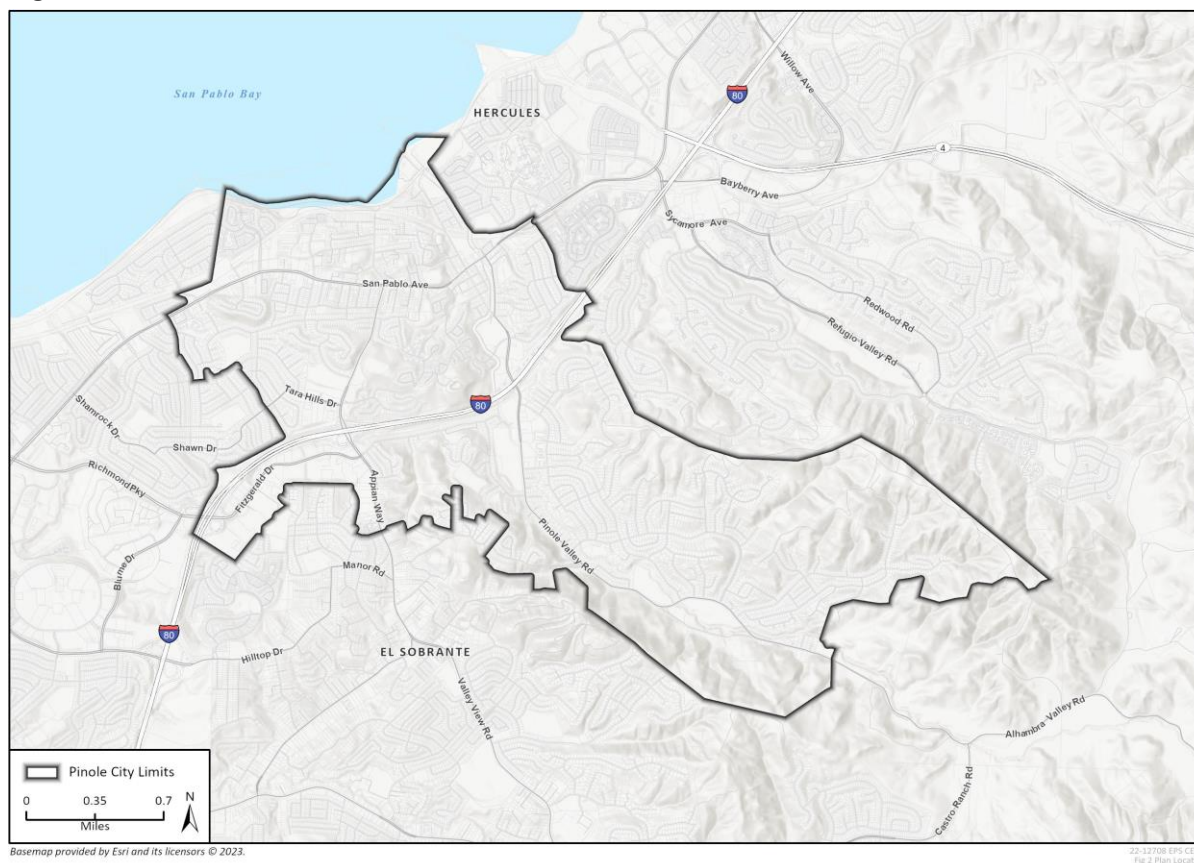


Figure 2 Plan Location

Regional Location and Setting

The City of Pinole is approximately 12 square miles and located in Contra Costa County, within the east San Francisco Bay area. Pinole is bordered by Richmond and San Pablo to the southwest, Hercules to the northeast, the unincorporated area of El Sobrante to the south, and the San Pablo Bay to the west. The City is connected to the rest of the County and the Bay Area by State Route 4 (SR 4) and Interstates 80 (I 80), which traverse the City. These freeways provide regional access to Pinole, which is also served by public transit facilities, including the Western Contra Costa Transit Authority (WestCAT) bus lines. Transit routes in Pinole are shown in Figure 3. In addition, nearby airports include the Buchanan Field Airport, which is located over 12 miles to the east.

Local Setting

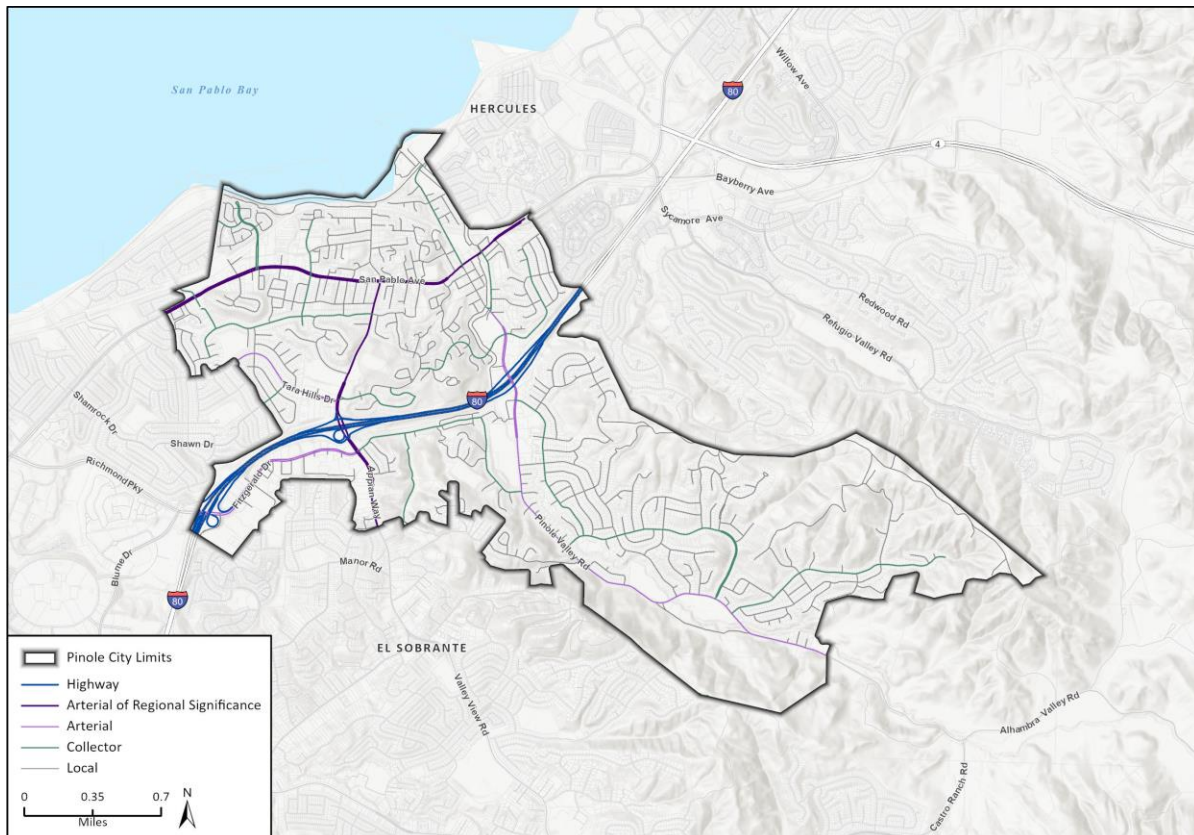
Pinole had a population of 18,244 in 2023 according to the California Department of Finance (DOF).¹ According to the General Plan,² the City's existing land use pattern is generally a mix of residential neighborhoods and commercial and business centers combined with parks and open spaces. Although the City of Pinole is largely built out, it includes opportunities for infill mixed-use

¹ California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates. <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/> (accessed January 2024).

² Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

development in a strategically located area near the Berkeley/Oakland and San Francisco employment centers. The City also has several distinct areas that characterize the City and surrounding area, including the Historic Old Town area north of I 80 that contains historic residences built for individuals who worked in Pinole or at the Hercules Powder Plant during the City's formative years as well as a commercial and business core that contains important civic and recreational facilities; Pinole Vista and Pinole Ridge Shopping Center, a regionally serving shopping district along Fitzgerald Avenue between the Richmond Parkway and Appian Way exits of Interstate 80; and Pinole Valley, an area that includes community serving retail, Pinole Valley High School, and residential areas with access provided primarily by Pinole Valley Road.³

Figure 3 Pinole Transit Routes



Existing Sustainability Setting

Pinole Sustainability and Greenhouse Gas Emissions Reduction Efforts

The City has actively implemented a variety of environmental programs contributing to GHG emissions reductions. The following is a list of Pinole's primary sustainability and climate protection programs and policies:

- Pinole Creek Watershed Vision Plan (2004)

³ Pinole, City of. 2010. General Plan, Introduction. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf (accessed January 2024)

- General Plan – Sustainability Element (2010)
- Three Corridors Specific Plan (2010)
- Pinole Green Infrastructure Plan (2019)
- Climate Resolution (2021)
- Pinole Economic Development Strategy (2022)
- Updated Community Inventory and Prepared Municipal Inventory, as well as community forecast and targets (2022)
- Capital Improvement Plan (2024)

The City has also taken several additional sustainability actions, such as initiating a municipal energy audit that will evaluate all City facilities and identify solutions for upgrades, retrofits, and replacements of existing energy systems to enhance efficiency, reduce environmental impact, and optimize resource utilization, aligning with the City's commitment to fostering sustainable practices and minimizing its carbon footprint. A Local Road Safety Plan is also being prepared to identify and improve corridors to make it safer and more convenient to actively commute. Pinole is also working towards banning single-use plastics for packaging consumer goods and takeout food (e.g., plastic bags and plastic foodware such as plates, cups, accessories, and cutlery) and expanding its Procurement Policy to capture more green goods and services. Additionally, The City is preparing a Draft Parks Master Plan which will include development of sustainable recreation and park development.

Regional Sustainability and GHG Reduction Efforts

In coordination with Contra Costa County, the State of California, and the federal government, the City of Pinole has committed to implementing regional and State policies related to GHG emissions reductions. As follows is a summary of the existing regional GHG emissions reduction efforts, which the Pinole CAAP is intended to be consistent with or exceed.

Plan Bay Area: Strategy for a Sustainable Region

In October 2021, the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) jointly adopted Plan Bay Area 2050, which serves as the Bay Area regional long-range plan and identifies how the Bay Area would meet its GHG emission reduction goals. Plan Bay Area is also considered the ABAG/MTC Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In accordance with Senate Bill (SB) 743, Plan Bay Area includes elements designed to encourage the type of land-use development to preserve affordable housing, improve economic mobility, enhance the transit network to reduce vehicle miles traveled (VMT) per capita, and reduce hazard risks including through adaptation to sea level rise and reducing GHG emissions.⁴

Bay Area Air Quality Management District CEQA Guidelines

In 2022, the Bay Area Air Quality Management District (BAAQMD) adopted the CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans and is in the process of updating their 2017 CEQA Guidelines.⁵ The CEQA Thresholds for Evaluating the

⁴ ABAG-MTC. 2021. Plan Bay Area 2050. <https://www.planbayarea.org/finalplan2050> (accessed November 2023).

⁵ BAAQMD. 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).

Significance of Climate Impacts from Land Use Projects and Plans include requirements for projects and plans in jurisdictions that do not have an adopted local GHG reduction strategy that meets the criteria of CEQA Guidelines Section 15183(b). In addition, according to the BAAQMD, if a project is consistent with a local GHG reduction strategy, then it can be presumed that the project will not have significant GHG impacts.⁶ This approach is consistent with CEQA Guidelines, Section 15183.5:

Lead agencies may analyze and mitigate the significant impacts of GHG emissions at a programmatic level, such as...a plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of GHG emissions.

Contra Costa Countywide Comprehensive Transportation Plan

In 2017, the Contra Costa Transportation Authority adopted the Countywide Transportation Plan (CTP), which serves as the blueprint for Contra Costa's transportation system through 2040. Five key goals have been adopted by the Contra Costa Transportation Authority for the 2017 CTP, which include: supporting the efficient, safe, and reliable movement of people and goods using all available travel modes; managing growth to sustain Contra Costa's economy, preserving its environment and supporting its communities; expanding safe, convenient, and affordable alternatives to the single-occupant vehicle; maintaining the transportation system; and continuing to invest wisely to maximize the benefits of available funding.⁷ In support of the Countywide CTP, the Contra Costa Transportation Authority has also prepared separate draft action plans for each subregion in Contra Costa County. Pinole is in the West County subregion,⁸ which encompasses the incorporated jurisdictions of El Cerrito, Richmond, San Pablo, Pinole, and Hercules, as well as unincorporated portions of western Contra Costa County. This update of the West County Action Plan has been prepared concurrently with, and in conjunction with, updates to the other four subregional action plans which will be used to determine the policies and actions that the Authority can adopt in the 2024 CTP Update which is currently being drafted and is intended to serve as the 25- year blueprint for improving transportation, reducing congestion, improving mobility, supporting a robust economy, and improving quality of life throughout Contra Costa. It is anticipated that the Draft CTP will be published in late 2024 and the Final CTP will go to the Authority Board for adoption in Spring 2025.⁹

Contra Costa County Climate Action Plan

In 2008, the County adopted its first Municipal Climate Action Plan¹⁰ identifying strategies to make government operations more sustainable. The Municipal Climate Action Plan identified thirteen existing and planned GHG reduction measures including employee carpool and vanpool programs; direct digital control for heating, ventilation, and air conditioning systems in County buildings; and

⁶ Ibid

⁷ Contra Costa Transportation Authority. 2017 Countywide Comprehensive Transportation Plan, Volume 1. September 10, 2017. <https://ccta.net/wp-content/uploads/2021/07/2017-CTP-Vol-1.2017.10.05.pdf> (accessed January 2024)

⁸ Contra Costa Transportation Authority. West County Action Plan. March 2023. https://ccta.net/wp-content/uploads/2023/03/Draft-West-County-Action-Plan_03-13-23.pdf (accessed January 2024)

⁹ Contra Costa Transportation Authority. Countywide Transportation Plan and Action Plans. 2024. <https://ccta.net/planning/countywide-transportation-plan/> (accessed January 2024)

¹⁰ Contra Costa County, California. Municipal Climate Action Plan. December 2008. <https://www.contracosta.ca.gov/DocumentCenter/View/2905/Municipal-Climate-Action-Plan-1208-Attachment-A?bidId=> (accessed January 2024)

flexible employee work schedules. The CAP was updated in 2015¹¹ to reflect legislation at that time and is currently being updated in parallel with the County’s General Plan.¹²

Marin Clean Energy

Marin Clean Energy (MCE) formed in 2010 as California’s first community choice energy program and currently provides electricity to more than 1.5 million residents and businesses in 37 member communities across Contra Costa, Marin, Napa, and Solano Counties. As demonstrated in MCE’s 2019 Integrated Resource Plan,¹³ MCE’s base energy product (Light Green) was 60 percent renewable starting in 2019 and is expected to rise to 70 percent by 2030. This would put MCE 11 years ahead of schedule in meeting Senate Bill 100’s 2030 RPS targets. Additionally, MCE’s GHG-free content was 100 percent in 2022, 23 years earlier than the State mandate.

State Sustainability and GHG Reduction Efforts

As follows is a summary of existing State GHG emissions reduction efforts, which the CAAP is intended to be consistent with or exceed.

GHG Reduction Policies

CALIFORNIA EXECUTIVE ORDER S-3-05

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies statewide GHG emissions reduction goals to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to meet the emission reduction targets in EO S-3-05 with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

CALIFORNIA ASSEMBLY BILL 32, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to

¹¹ Contra Costa County. Contra Costa County Climate Action Plan. December 15, 2015. <https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=> (accessed January 2024)

¹² Contra Costa County. Envision Contra Costa 2040. <https://envisioncontracosta2040.org/overview/#cap> (accessed January 2024)

¹³ Marin Clean Energy (MCE). 2018. 2019 Integrated Resource Plan. https://www.mcecleanenergy.org/wp-content/uploads/2020/01/MCE-Integrated-Resource-Plan_2019.pdf (accessed January 2024)

require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MT of CO₂e.

CALIFORNIA SENATE BILL 375, SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT

In 2008, Senate Bill (SB) 375 enhanced the State's ability to reach AB 32 targets by developing regional GHG emissions reduction goals to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments was assigned targets of a ten percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a nineteen percent reduction in per capita GHG emissions from passenger vehicles by 2035.¹⁴

CALIFORNIA CLIMATE CHANGE SCOPING PLAN

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2013)

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

CALIFORNIA EXECUTIVE ORDER B-30-15

In 2015, the California governor issued Executive Order B-30-15, which established a statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030. The EO also calls for another update to the CARB Scoping Plan.

CALIFORNIA SENATE BILL 32, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT UPDATE

In 2016, SB 32 was passed, extending AB 32 by requiring further reduction in statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

¹⁴ CARB. 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).

2016 Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires CalRecycle, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. The bill further requires 20 percent of edible food disposed of at the time to be recovered by 2025.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2017)

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383.

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.¹⁵

CALIFORNIA EXECUTIVE ORDER B-55-18

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

ASSEMBLY BILL 1279

In September 2022, AB 1279 was approved, which established a legally binding requirement for California to achieve and maintain carbon neutrality no later than 2045. Assembly Bill 1279 also established the requirement to achieve a Statewide reduction in GHG emissions of 85 percent below 1990 levels by 2045. This indicates that the remaining 15 percent to achieve carbon neutrality can be achieved via carbon sequestration and other non-direct-GHG-emissions-reductions techniques.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2022)

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB adopted the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous

¹⁵ CARB. 2017. California 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).

updates while identifying a new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action in natural working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from the governor, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.¹⁶

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

Energy- and Vehicle-Related Policies

ASSEMBLY BILL 1493, PAVLEY BILL VEHICLE EFFICIENCY STANDARDS

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the CARB to adopt standards that will achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, CARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, CARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and GHGs and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLAN OF 2008

In 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change went into effect in January 2020 with the adoption of the 2019 California Code of Regulations (CCR) Title 24 Code and is a step towards the State achieving its goal of all residential new construction being zero-net energy (ZNE) by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial buildings to be retrofitted to ZNE by 2030, and all new State buildings and major renovations to be constructed to ZNE by 2025.

¹⁶ CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023)

CALIFORNIA CODE OF REGULATIONS TITLE 24 (CALIFORNIA BUILDING CODE)

Updated every three years through a rigorous stakeholder process, Title 24 of the CCR requires California homes and businesses to meet strong energy efficiency measures, thereby lowering their energy use. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code is applicable to all development in California. (Health and Safety Code § 17950 and 18938(b).)

The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are carefully scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)). The 2022 Title 24 standards went into effect on January 1, 2023.

Part 6 – Building Energy Efficiency Standards

CCR Title 24 Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards applicable to air quality require:

- Minimum 20 percent reduction in indoor water use relative to specified baseline levels;¹⁷
- Waste Reduction:
 - Minimum 65 percent non-hazardous construction/demolition waste diverted from landfills;
 - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous

¹⁷ Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or

- Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards; and
- EV Charging for New Construction:¹⁸
 - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
 - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;
 - Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25 percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;
 - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:
 - 0-9: no EV capable spaces or charging stations required;
 - 10-25: 4 EV capable spaces but no charging stations required;
 - 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
 - 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
 - 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
 - 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
 - 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
 - More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;
 - Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;
- Bicycle Parking:
 - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or

¹⁸ EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

- Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
- Shade Trees (Non-Residential):
 - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
 - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or
 - Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

ASSEMBLY BILL 117, COMMUNITY CHOICE AGGREGATION

AB 117 allows the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000's. AB 117 was passed in 2002 as an answer to California's increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., Pacific Gas and Electric). MCE was the first CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. In 2017, SVCE began supplying south bay area communities, including Pinole, with options for 100 percent renewable energy-sourced electricity or electricity from a mix of renewable and non-renewable sources. CCAs are governed by the CPUC. SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

SENATE BILL 1275, CHARGE AHEAD INITIATIVE

In 2014, SB 1275 established a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directed CARB to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low- and moderate-income communities and consumers.

SENATE BILL 350, CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

In 2015, SB 350 established new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codified Governor Brown's aggressive clean energy goals and established the State 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

SENATE BILL 1020, CLEAN ENERGY, JOBS, AND AFFORDABILITY ACT OF 2022

Established in 2002 under SB 1078, and accelerated by SB 107 (2006), SB X 1-2 (2011), SB 100 (2018), and SB 1020, California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to transition the electricity supply to renewable resources. The RPS requires energy service providers to supply renewable energy as follows: 90 percent of retail sale electricity and 100 percent of electricity procured to serve state agencies by 2035, 95 percent by 2040, and 100 percent by 2045. The CPUC and the CEC are jointly responsible for implementing the program.

Other GHG Emissions-Related Policies

ASSEMBLY BILL 197, STATE AIR RESOURCES BOARD GHGS REGULATIONS

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over CARB and directs CARB to prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires CARB to protect the State's most impacted and disadvantaged communities [and] consider the social costs of the emissions of GHGs when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to CARB, increasing the Legislature's role in CARB's decisions.

SENATE BILL 97, CEQA GUIDELINES FOR ADDRESSING GHG EMISSIONS

CEQA requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

General Plan Designation and Zoning

The Pinole CAAP and CEQA GHG Emissions Thresholds would be implemented throughout the City and would occur in all General Plan designations and in all zoning designations.

Description of Plan

Pinole CAAP

The City of Pinole CAAP was developed to achieve a resilient and climate-ready community and support regional, State, and global climate goals through achieving the City's 2030 and 2045 climate action targets. The City's GHG targets were developed relative to the 2017 Community GHG emissions by back-casting to 1990. This back-cast utilized the change in statewide GHG emissions between 2017 and 1990 as a proxy for change in Pinole during the same period.¹⁹ The estimated 1990 GHG emissions were then reduced by 40 percent to establish a 2030 target for the City and

¹⁹ The City of Pinole's 1990 GHG emissions were estimated to be [78,982](#) MT CO₂e based on a nine percent increase in state GHG emissions seen between 2017 and 1990.

reduced to zero to establish a 2045 target for the City. The targets, established as follows, remain consistent with the State’s 2030 and 2045 goals:

- Reduce GHG emissions to 47,389 MT CO₂e by 2030 (the SB 32 target year)
- Reduce GHG emissions to 0 MT CO₂e by 2045 (the AB 1249 target year)

The CAAP provides a foundation for future sustainable development efforts in Pinole, and it is anticipated that environmental review documents for future development projects would identify and incorporate applicable GHG reduction measures and actions from the CAAP. The CAAP addresses communitywide GHG emissions and includes a discrete target for Pinole to reach maximum emissions of 47,389 CO₂e by 2030. The CAAP includes a summary of the emissions inventory and forecast, measures and actions to achieve the City’s climate mitigation and resilience goals and focuses on actions through 2030 for purposes of meeting the City’s 2030 GHG emission target.

The 2017 GHG emissions inventory provides the basis for emissions forecasts for the years 2025, 2030, 2035, 2040, and 2045. The GHG emissions inventory was completed in compliance with all relevant protocols and guidance documents, including U.S. Community Protocol, Local Government Operations Protocol, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. In 2017, Pinole’s total GHG emissions were estimated to be 73,513 MT of CO₂e. GHG emissions in the inventory are categorized based on sectors. These sectors include off-road vehicles and equipment, solid waste, water and wastewater, on-road transportation, residential energy use, and nonresidential energy use. Table 1 provides the summary of Pinole’s 2017 GHG emissions by sector, as well as each sector’s percentage of communitywide emissions.²⁰ As shown therein, the largest GHG emissions are related to transportation and building energy use.

²⁰ Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.

Table 1 Pinole 2017 Communitywide GHG Emissions Levels

GHG Emissions Sector/Source	CO ₂ e (MT)	Percent of Total Emissions
Residential Energy	21,878	30
Electricity	3,738	5
Natural Gas	18,140	25
Nonresidential Energy	11,210	16
Electricity	5,918	8
Natural Gas	5,291	7
On-road Transportation	30,483	42
Off-Road Equipment	5,236	7
Water and Wastewater	166	<1
Solid Waste	3,300	5
Total	72,273	100

CO₂e = carbon dioxide equivalent; MT = Metric Tons

Source: Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.

Note: Values may not add up due to rounding.

The Pinole CAAP establishes a target to reduce communitywide GHG emissions to 40 percent below 1990 levels by 2030 (47,389 MT of CO₂e), which aligns with the SB 32 State GHG emissions target, consistent with CEQA for a qualified GHG emissions reduction strategy and to be achievable by City-supported measures and actions identified in the Pinole CAAP. The CAAP includes a business-as-usual (BAU) forecast and an adjusted BAU (ABAU) forecast of GHG emissions, based on the 2017 inventory, which enables Pinole to estimate the emissions reductions required to meet its communitywide reduction targets.

The Pinole CAAP is organized into 13 strategies for GHG emissions reduction and climate adaptation, each of which includes measures and actions. These strategies focus on clean electricity, building decarbonization, transportation decarbonization and sustainable land use planning, solid waste and water use reductions, community engagement, and climate adaptation. Table 2 includes a complete list of the strategies, measures, and actions established by the City for inclusion in the CAAP, as well as anticipated annual GHG reductions attributable to mitigation-related measures in 2030. Measures that focus on adaptation will note “Not Applicable” or “N/A” in the emissions reduction quantification column below.

Table 2 Pinole CAAP GHG Emissions Reduction and Climate Adaptation Strategies, Measures, and Actions

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy CR: Cornerstone to Climate Action and Adaptation Planning		
Measure CR-1. Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.		
CR-1a	Coordinate with the City's Economic Development staff to review and update the Pinole Economic Development Strategy every three years (2026/28, 2029/31, 2032/34, etc.) and adjust fees to specifically attract green and clean energy businesses to Pinole by reflecting changing economic trends, evolving community needs, and emerging opportunities. Include an annual review of the fee schedules (including a survey of competitor's fees) to assess their impact on green businesses.	2030: N/A 2045: N/A
CR-1b	Work with the City's Economic Development staff to perform direct outreach to existing Pinole businesses to identify climate change impacts (e.g., climate hazards, increasing water and natural gas costs, etc.) that may affect the long-term viability and growth of existing core industries and small business. Include regional green and clean energy businesses in a "short list" of industries to focus these initial outreach and business retention efforts during Phase 1.	
CR-1c	In partnership with organizations such as the Workforce Development Board of Contra Costa County or Contra Costa College, create a green workforce development program to connect Pinole residents to workforce development training courses for climate industries with high-road jobs. Additionally, use the program to develop a network of local professional associations active in Pinole and to incorporate green workforce development training courses into the periodic "Pinole Workforce Development Consortium" meetings identified in the Economic Development Strategy. Focus this program on members of the most disadvantaged and vulnerable communities in the City and track enrollment and success rate by zip code to monitor the reach and distribution of the initiative.	
CR-1d	Partner with the Contra Costa County Green Business Program to help small- and medium-sized businesses in Pinole minimize their impact on the environment and increase the number of certified Green Businesses in Pinole.	
CR-1e	Create a Green Technology Incubator in partnership with the Workforce Development Board of Contra Costa County, Contra Costa College, the Renaissance Entrepreneurship Center, the East Bay Economic Development Alliance, or similar partners, to help startups and companies working on innovative solutions for climate-related challenges to succeed in the market. The Green Technology Incubator would provide access to funding through identification and partnership opportunities for grants, technical assistance, networking support, and community exposure.	
CR-1f	Incentivize optimal use of properties with a water view by adoption of Municipal Code Amendments allowing for height exceptions for mixed use developments that include top-floor restaurants that are dense, transit rich and connected to Pinole's growing active transportation network.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CR-1g	Based on the findings and recommendation of the broadband feasibility study, a subsidy or grant program may be developed to improve existing infrastructure of multi-family units (i.e., upgrade internal wiring etc.) to update policies to increase Pinole residents' work-from-home rate, including incorporating work-from-home strategies into the Transportation Demand Management standards of Action TR-3a.	
CR-1h	Explore locations within the City to create a plan to develop a climate resilience district. The district would receive focused City resources, support, partnerships with local businesses, and engagement to develop resilient communities. Examples could include the Pinole Valley area to focus on funding projects related to wildfire risk, for example.	
Strategy BE: Building Energy		
Measure BE-1. Electrify 100% of new construction in the City by 2024.		
BE-1a	Adopt a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction.	2030: 1,509 2045: 5,962
BE-1b	Partner with organizations such as MCE, Bay Area Regional Energy Network (BayREN), the Building Decarbonization Coalition and the U.S. Green Building Council (USGBC) to compile a suite of case studies (e.g., document/guide on all-electric best practices and examples applicable to Pinole or the Bay Area) and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype. Provide digital copies on the City's website and hard copies at City Hall for residents and business owners to review and utilize.	
BE-1c	Partner with organizations such as MCE, BayREN, the Building Decarbonization Coalition, and USGBC to educate building owners, developers, and contractors on the cost savings, environmental benefits, and versatility associated with all-electric construction, as well as the advantages all-electric construction provide for United States Green Building Council LEED certification. Utilize the case studies and cost-effective strategies as well as existing resources such as those provided by MCE as educational materials and share the information on the City's website, at City events (such as Dumpster Day and Earth Walk), and at the City's permit counter.	
BE-1d	Partner with PG&E to conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification and identify infrastructure improvements (including local renewable energy and storage projects) to increase capacity to meet demand. During this process, work with MCE to provide projections on load changes due to electrification.	
BE-1e	Partner with MCE, the WFDBCCC and/or other organizations to host regular workforce development trainings for installers, local contractors, and building owners/operators. Trainings would provide financial resources and technical requirements, including information on new electric appliances and approaches to electrification. Partner with community-based organizations to connect members of vulnerable communities to these training programs in plain language and in a culturally appropriate manner.	
BE-1f	Advocate for regional policy and programs that allow for utility rates that are supportive of electrification (i.e., electricity rates lower than natural gas rates).	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Measure BE-2. Electrify existing residential buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.		
BE-2a	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings. <i>The ordinance would apply to projects after calendar year 2024. The ordinance would be implemented through the building permit process.</i>	2030: 4,778 2045: 19,273
BE-2b	After calendar year 2024, include major renovations (i.e., projects that affect over 50% of the building, add an additional 50% of gross floor space to the building, or value more than 50% of the assessed value of the property at time of application submittal) in the all-electric new building requirements.	
BE-2c	Complete a residential existing building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers). This information will be used to inform and support future updates to the existing building electrification ordinances as well as the building electrification resource center (Action BE-2e).	
BE-2d	Partner with Contra Costa County to create a virtual all-electric building resource center to provide residents information on available electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs and on-bill financing, and equipment and labor warranties.	
BE-2e	As part of the building electrification resource center, provide free assessments to rental and multi-family properties, as well as seniors and residents living on low incomes.	
BE-2f	Partner with MCE and PG&E to review incentives, rebates, and on-bill financing options for procedural equity and then update the incentives to remove the identified barriers.	
BE-2g	Partner with properties in Pinole that provide deed-restricted affordable housing, MCE, PG&E, and BayREN to initiate and complete an affordable housing electrification pilot project. Project will implement energy efficiency strategies to mitigate increased energy bills for occupants. Promote the pilot project as a case study for future projects in the City.	
BE-2h	Work with MCE and PG&E to conduct a cost-effectiveness study and design electricity and natural gas billing rates that make electrification the most cost-effective option to reduce energy bill burdens for residents living on low and medium incomes.	
BE-2i	Provide education around cooking with electric appliances and partner with local chefs and/or restaurants to host cooking demonstrations at community events such as the Farmers' Market. Integrate locally sourced food into the demonstrations to also educate community members on the GHG emission reduction and resilience benefits of local food.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-2j	Enforce ordinance compliance through a comprehensive permitting compliance program which may include, but is not limited to: ▪ Providing dedicated time for routine staff training to incorporate into existing building inspections. ▪ Imposing fees for noncompliance to offset staff costs and encouraging voluntary compliance. ▪ Establishing easy-to-understand web-based compliance checklists and permit applications. ▪ Facilitating online permitting. ▪ Providing zero-cost permit fees for heat pump installations.	
BE-2k	Develop and implement a water heater loan program where residents who are replacing their natural gas-powered water heaters with electric-powered water heaters at the end of their useful lives can borrow or rent at no cost a working natural gas water heater from the City for a limited period of time (e.g., three weeks) to use during any electrical panel upgrade requirements to install an electric water heater. Participation in this program could serve as a mechanism to support thoughtful residential transition. Consider expanding the loan program to induction stoves as well.	
BE-2l	Partner with Rising Sun, or similar entity, to continue providing “Green House Calls” to residents to recommend energy-saving appliances and programs to help offset the costs of electrification.	
BE-2m	Work with PG&E to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon-neutral buildings. Engage local developers, MCE, and vulnerable populations to assess the feasibility of adopting an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	
BE-2n	Adopt an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	
BE-2o	Explore the development of a revolving fund to integrate wall batteries for energy storage with Pinole’s Energy Enhancement Rebate Program, aiming to enhance energy efficiency, sustainability, and financial viability for a more resilient energy future.	
Measure BE-3. Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.		
BE-3a	Complete an existing commercial building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers).	2030: 997 2045: 5,868
BE-3b	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for commercial and mixed-use buildings. The ordinance will be implemented through the building permit process. Track annual progress on commercial and mixed-use building electrification through the same permit tracking program developed for residential building electrification.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-3c	Evaluate the success of the Pinole Energy Enhance Rebate Program which offers additional rebates to Pinole residents for energy efficiency improvements stacked on top of federal, state, or regional rebates or discounts. Work with Contra Costa County Department of Conservation and Development to restructure the pilot program as needed. Seek annual grant funding sources to sustain and support the program through.	
BE-3d	Develop a building performance standard program to meet a specific level of energy use per square foot for all commercial and industrial buildings over 20,000 square feet. Implementation and compliance support, including resources and tools which will be implemented through four stages: 1. Pre-development phase – Stage 1 – Staff to receive technical assistance from the Building Technologies Office in the Federal Office of Energy Efficiency and Renewable Energy (EERE). Per the EERE, technical assistance may take the form of: a. Building stock analyses, including analysis of energy and emission impacts associated with building performance standard adoption b. Performance target-setting and trajectories c. Measure and technology prioritization and packaging d. Cost-effectiveness analyses 2. Data collection phase – Stage 2 – All commercial and industrial building owners with floor area over 20,000 square feet report electricity and natural gas data through energy star portfolio manager. 3. Retro commissioning phase – Stage 3 – All covered building owners complete a retro commissioning process to identify and correct system inefficiencies while identifying opportunities for electrification and downsizing of oversized equipment. 4. GHG Performance Standard – Stage 4 – Implement a building performance standard that requires buildings to meet a specific GHG performance level.	
BE-3e	Conduct targeted outreach and complete tailored campaigns during development of the building performance program (Action BE-3d) and electrification ordinance (Action BE-3b) to identify potential barriers to commercial and mixed-use electrification (including equity barriers) and educate commercial and mixed-use property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to building owners that rent or lease space to small businesses and minority-owned businesses as well as the business owners and conduct a survey to such businesses to identify specific resources needed to support an equitable building electrification.	
BE-3f	Partner with Contra Costa Health Services to provide small and minority-owned businesses/commercial property owners or property owners that rent or lease space to small or minority-owned business, electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs, and equipment and labor warranties through the building electrification resource center (Action BE-2e). Additionally, partner with MCE or PG&E to provide on-bill financing.	
BE-3g	Partner with the Bay Area Council, Bay Front Chamber of Commerce, and Contra Cost County Green Business Program to inform, encourage, and facilitate electrification for commercial business owners.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-3h	Review incentives and rebates (from Action BE-3g) for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural roadblocks, and lack of targeted outreach.	
BE-3i	Work with MCE, PG&E, and BayREN to incentivize all-electric retrofits by combining rebate programs and financing mechanisms to create cost-effective electrification packages and develop bulk-purchasing opportunities for multi-unit development owners. Additionally, work with BayREN to educate the business community about the available incentives and include direct outreach to small, and frontline community-owned businesses and property owners who rent and lease space to frontline community-owned businesses.	
BE-3j	Work with BayREN to identify highly efficient net zero energy building owners that meet the CPUC's hard-to-reach criteria and publicize commercial tax breaks to these building owners as well as commercial developers in Pinole.	
BE-3k	Re-evaluate the building performance program (Action BE-3d) every three years to gauge implementation progress and phase expansion of program to smaller buildings.	
BE-3l	Review and update Section 15.46.020 of the Municipal Code to require upon a transfer of ownership the disclosure of additional relevant weatherization information (e.g., ventilation standards, wall insulation, and installation of programmable thermostats) for residences and commercial buildings over 5,000 square feet. As part of this, work with Contra Costa County Department of Conservation and Development to promote the Weatherization Program for qualifying residents. Additionally, develop a City-specific disclosure checklist and coordinate with realtors/brokers to engrain the City's resale requirements into their work with buyers and sellers.	
Measure BE.4 Work with MCE to provide carbon-free and renewable energy to at least 95% of the community by 2030.		
BE-4a	Support MCE in building capacity and funding to provide all Pinole customers 100% carbon-free and renewable energy and adopt a City resolution to enroll all Pinole residents and businesses in carbon-free and renewable from MCE (e.g., MCE's Deep Green option) by 2030. The resolution shall include identification of a funding or subsidy plan/program to avoid cost increases to customers enrolled in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs (Action BE-4b).	2030: 3,200 2045: 0
BE-4b	In support of Action BE-4a, work with MCE to create a funding and subsidy plan/program for customers enrolled in the CARE or FERA programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for vulnerable communities.	
BE-4c	Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low and fixed incomes and vulnerable communities to identify barriers to remaining with MCE.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-4d	Continue to partner with MCE to conduct educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy and promote the available incentives.	
BE-4e	Conduct targeted outreach campaigns to convert PG&E direct access customers to MCE by promoting available incentives and promoting the economic and business benefits of 100% renewable energy.	
Measure BE-5. Increase generation and storage of local community-scale renewable energy.		
BE-5a	Adopt a PV (Solar) Ordinance requiring newly constructed and majorly renovated multi-family and commercial buildings to install PV systems and storage that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen.	2030: N/A 2045: N/A
BE-5b	Continue to establish and streamline standards and permit requirements for electrification-related installations and battery storage systems to allow for easier implementation of these technologies in the City.	
BE-5c	Install a co-located community solar and storage facility to benefit affordable housing sites using Equity Resilience Incentives under the Self-Generation Incentive Program available through the California Public Utilities Commission.	
BE-5d	Collaborate with PG&E, MCE, and/or other community partners to support and incentivize local on-site energy generation and storage resources. This could include: - Connecting home and business owners, particularly those in vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill credits, the Disadvantaged Communities-single-family Solar Homes (DAC_SASH) program, Self-Generation Incentive Program (SGIP), and Equity Resilience rebates that provide an upfront rebate for battery storage, as well as the federal investment tax credit. - Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms. - Providing workshops to large commercial developers and large business property owners on the benefits of microgrids and energy resilience. - Creating a strike team to conduct engagement efforts for the commercial sector to identify ways the City can support commercial energy storage installations and neighborhood scale microgrid opportunities.	
BE-5e	Expand the partnership with GRID Alternatives through increased funding/support and promote the benefits of renewable energy through multi-lingual educational programs to facilitate an equitable transition to renewable energy.	
BE-5f	Partner with CBOs and homeowner's associations (HOAs) through the City's professional grant writing consultant, who will support the identification, conceptualization, preparation, and submittal of grant applications to secure funding for community-scale renewable energy projects. Utilize any grant funded projects as City pilot projects to demonstrate the success of the program and opportunities available.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy TR: Transportation		
Measure TR-1. Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.		
TR-1a	Conduct an analysis of existing bicycle and pedestrian conditions during the development of the Active Transportation Plan with a focus on identifying residential communities, commercial uses, schools, and open spaces currently disconnected from the Creek, due to freeways and lack of connections on busy roads. Build on the interactive map created to solicit community input regarding the Active Transportation Plan on “Pinole Speaks,” the City’s public input website to display the active transportation conditions identified and allow community feedback through the webpage.	2030: 107 2045: 256
TR-1b	Complete the Active Transportation Plan with a focus on creating safe and connected active transportation networks that link residential neighborhoods, schools, and commercial centers to Pinole Creek and thereby to each other. The plan will include: ▪ A prioritized list of pathways to be installed or upgraded to include shared-use paths, buffered bike lanes, bike boulevards, and separated bikeways. ▪ A prioritized list of bicycle parking or storage and equipment repair infrastructure. ▪ Information on additional infrastructure installed as part of the plan, such as trash and recycling receptacles to prevent waste from entering the creek due to increased usage. ▪ A schedule for reducing vehicle speed limits at prioritized locations. ▪ Available funding sources for infrastructure buildout. ▪ Use of sustainable materials, when feasible Prioritization shall focus on achieving an equitable active transportation system where all Pinole residents have access to critical connections and mobility options.	
TR-1c	Partner with Contra Costa Transportation Authority to pursue funding from Caltrans’ Active Transportation Program or similar funding opportunities to implement improvements from the City’s Active Transportation Plan.	
TR-1d	Partner with entities such as the Metropolitan Transportation Commission, 511 Contra Costa, or the Contra Costa Transportation Authority to expand existing rebate programs to help families living on low- and fixed-incomes purchase alternative modes of transportation (e.g., bicycles, scooters, rollerblades, skates, skateboards) and appropriate safety gear.	
TR-1e	Partner with Bike East Bay and/or other non-profit groups to periodically close streets with connections and vistas of the Creek to cars to host walk/bike/roll (car-free) community events that demonstrate the benefits of a safe and connected active transportation network. Coincide these community events with regular active transportation events to encourage and reward residents for participation.	
TR-1f	Partner with schools, youth sports leagues, the Pinole Police Department, and community groups such as Friends of Pinole Creek Watershed, 511 Contra Costa, Pinole Valley Earth Team, Pinole Rotary, Pinole Community Services Commission and local Tribes to teach students and families bicycle and pedestrian safety and educate them on the safe route availability and the health and environmental benefits of walking and bicycling, as well as the history of the Pinole Creek ecosystem and surrounding natural lands.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-1g	Partner with an electric bike provider or rental company to pilot an electric-bike rental program at the Pinole Library. Track use of the program, including equity indicators, to monitor its success and evaluate continuation of the program.	
TR-1h	Install bike repair stations along the Pinole Creek and consider partnering with a local bike shop to provide quarterly bicycle repair support for residents traveling along the bike path or at a designated, central location.	
TR-1i	Implement 100% of the Active Transportation Plan by 2030 to achieve a 5.5% active transportation mode share by 2030 and 11.5% by 2045.	
Measure TR-2. Implement public and shared transit improvements and programs to achieve a 14% public transit mode share by 2030 and 18% by 2045.		
TR-2a	Partner with Western Contra Costa Transit (WestCAT) to conduct a prioritization study to determine transit priority corridors and best potential locations for WestCAT expansions (including the Hercules Intermodal Transit Center and Richmond BART Station) to reduce transit travel times from/to Pinole. The study shall include an analysis of existing stops and schedules, a survey of existing commuter patterns, analysis of potential latent demand, and targeted outreach to residents living on low- and moderate-incomes and members of vulnerable communities to understand the concerns around or equity barriers to using public and/or shared transit.	2030: 256 2045: 559
TR-2b	Conduct a feasibility study to assess the potential impacts and costs of a park-and-ride facility in Pinole and identify potential locations.	
TR-2c	Work with WestCAT to complete an analysis of potential design improvements, such as seating and shading bus stops and along active transportation routes to increase use.	
TR-2d	Work with WestCAT to improve transit accessibility for people with disabilities by ensuring physical accessibility (i.e., ramps, lifts, and tactile paving), providing both audio and visual information; training staff on how to assist people with disabilities and handle equipment; and actively engage people with disabilities in the decision-making process.	
TR-2e	Partner with WestCAT and the Contra Costa Transportation Authority to implement a free public transit pilot program for students, foster youth, and unhoused youth in Pinole that makes it free for participants to travel via WestCAT.	
TR-2f	Based on the prioritization studies (TR-2a - TR-2c), develop a plan to prioritize infrastructure improvements in existing neighborhoods that increase access to and use of public transit. The plan shall include projects and timelines to: - Expand WestCAT routes and schedules - Cohesively label all existing and new stops - Provide safe and convenient shelters with benches, shade, hand sanitizing stations, area maps, and native plants - Establish a schedule to annually monitor routes and schedules to confirm they meet the needs of the community	
TR-2g	Engage with Caltrans to design and install a park and ride facility, which may include implementing efficient traffic flow systems.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-2h	Partner with 511 Contra Costa to educate Pinole residents, commuters, and students on available transit opportunities through free commute consultations, and provide qualifying commuters with financial incentives to take transit, such as pre-loaded Clipper cards and a Guaranteed Ride Home program.	
TR-2i	Partner with WestCAT and the Contra Costa Transportation Authority to pursue funding for the prioritization study and plan (TR-2a - c and TR-2f) through MTC's One Bay Area Grant funding, or similar funding opportunities.	
TR-2j	Partner with the West Contra Costa Unified School District and/or private schools to evaluate mobility needs and expand bus routes where necessary to increase access to and use of school bus transportation to schools, including services for after-school hours for student and their guardians.	
Measure TR-3. Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.		
TR-3a	Adopt an ordinance requiring all employers to develop a Transportation Demand Management (TDM) Plan and require large employers (i.e., more than 25 employees) to include money-based incentives for employees to bike, walk, carpool, or take public transit to work. Additionally, complete a comprehensive study to establish an Average Vehicle Ridership (AVR) that accurately reflects Measure TR-1 and TR-2's goals.	2030: N/A 2045: N/A
TR-3b	Create a Pinole Parklets Program to install parklets in the downtown and other commercial areas of the City and engage with businesses to gain sponsorship for the parklets.	
TR-3c	Require informative signage be included at the parklets designed through the Pinole Parklet Program (Action TR-3b) that provide information on the benefits of ecosystem services at all scales, and the health impacts associated with reducing single occupancy vehicle trips.	
TR-3d	Partner with local jurisdictions, public transit providers, and CBOs to identify gaps in the transportation network that can be prioritized for cross-jurisdictional collaboration to connect the region and reduce the need for single occupancy vehicles.	
TR-3e	Conduct an analysis of the potential community impacts and feasibility and benefits of implementing disincentive-based policies for driving single-passenger vehicles, including a congestion charge program, limiting parking options, increased local taxes (income tax, gasoline tax, or car registration tax), and Transportation Network Companies (TNC) user taxes. Include analysis of potential equity impacts of the policies and identification of potential equity metrics to address equity concerns when developing policies.	
TR-3f	Consider opportunities to fund transportation system improvements through disincentive-based program revenues and/or a tiered TDM fee for employers who do not achieve the established AVR by 2030 to establish an equitable transition to more sustainable modes of transportation.	
TR-3g	Conduct AVR surveys of Pinole businesses every three years to determine weekday AVR and mode share split as well as perceived barriers to telecommuting and alternative modes of transportation (i.e., modes other than single occupancy vehicles), and interest in sustainable transportation amenities, infrastructure, and events/resources.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-3h	Consider development applications that will improve the community by increasing density in transit-rich areas and connecting residents of multi-family, and/or affordable housing sites to public and shared transit options.	
Measure TR-4. Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.		
TR-4a	Adopt an EV reach code by 2025 requiring new commercial and multifamily construction to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces).	2030: 3,832 2045: 13,839
TR-4b	Adopt an EV reach code by 2026 requiring major multifamily building retrofits to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces) and major commercial retrofits (with a square footage larger than 10,000 square feet or modifications for electric service panels) to meet CalGreen requirements for “EV Ready” charging spaces and infrastructure.	
TR-4c	Adopt an ordinance that bans the development of any new, or expansion, renovation or replacement of any existing, fossil fuel stations in the City prior to the expiration of the Urgency Ordinance. The process should include: 1. Determine and define an outreach process. 2. Prepare a General Plan, Specific Plan, and Zoning Ordinance text amendment, which would establish Service Station land use as Not Permitted by Table 17.20.030-1 in the PMC, making all existing service stations legal non-conforming and subject to Section 17.14.080 of the Municipal Code. 3. Determine if any streamlining enhancements to existing provisions in the PMC that incentivize the expansion, modification, or retrofit of an existing service station to incorporate biodiesel or other alternative fuels or charging stations for electric vehicles should be considered. 4. Take the Amendments through the required public review process, including Planning Commission recommendation and City Council adoption. 5. Continue to direct staff to explore options for additional charging at City-owned/maintained properties and private facilities for public benefit.	
TR-4d	Update Pinole’s permit process for EV chargers to create a streamlined process for residents and businesses that is consistent with the State’s Electric Vehicle Charging Station Permitting Guidebook (as well as AB 970, AB 1236).	
TR-4e	Prepare a feasibility study to evaluate opportunities for installation of EV charging stations at City owned facilities. The feasibility study will assess electrical capacity, electrical demand, financial constraints, and parking utilization to provide a prioritized list of locations to install new publicly accessible EV charging stations.	
TR-4f	In the feasibility study, include evaluation of opportunities and prioritization of locations to increase the equitable distribution of publicly available EV chargers to residents of multi-family homes and residents living on low- and moderate-incomes, as well as consideration for optimizing daytime charging.	
TR-4g	Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City’s website and at community events.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-4h	Work with MCE to promote and provide technical assistance for their Residential EV Rate Plan and MCE Sync charging app to help community members charge during off-peak hours and save money on home charging.	
TR-4i	Coordinate with community-based organizations, local agencies, and non-profits such as Charge Up Contra Costa, 511 Contra Costa, and Cool the Earth to conduct zero-emission vehicle (ZEV) education events for residents and targeted events for residents living on low- and moderate- incomes as well as residents living in multi-family buildings that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and detail the steps on how to receive incentives for ZEVs.	
TR-4j	Work with Contra Costa County to create an EV charging etiquette policy that encourages a seamless charging experience, fosters community collaboration, and promotes sustainable practices for the benefit of all electric vehicle users and the environment.	
TR-4k	Develop an equitable charging fee structure that provides accessibility for all users, regardless of socio-economic background, fostering inclusivity and promoting widespread adoption of electric vehicles.	
TR-4l	Develop outreach and education materials and distribute them to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health, and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process. Additionally, as part of this process, include information on EV battery recycling to dispel myths, ease disposal concerns, and promote sustainable practices grounded in science.	
TR-4m	Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a zero-emission vehicle car share network.	
TR-4n	Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share program to serve affordable housing and/or multifamily developments with a priority to target residents living on low- and moderate-incomes.	
TR-4o	Based on the prioritized list of locations developed through actions TR-4d and TR-4e, install at least 270 new publicly accessible Level II and DC Fast chargers by 2030 and 935 by 2045, through public-private partnerships and on City-owned properties.	
Measure TR-5. Increase commercial zero-emission vehicle (ZEV) use and adoption to 25% by 2030 and 100% by 2045.		
TR-5a	Work with the Bay Area Air Quality Management District, Pacific Gas & Electric, and or similar entities to identify and provide funding for electric vehicles and charging infrastructure for disadvantaged or vulnerable business owners.	2030: 2,303 2045: 8,186
TR-5b	Create a summary of commercial vehicle fleets in Pinole and identify employers to work with to accelerate ZEV adoption through targeted education.	
TR-5c	Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of zero emission vehicles (e.g., fuel cost savings through networked charging and current availability of zero emission vehicles ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities.	
TR-5d	Implement local tax breaks to incentivize commercial fleet electrification.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-5e	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.	
Measure TR-6. Electrify or otherwise decarbonize 8% of off-road equipment operations by 2030 and 100% by 2045.		
TR-6a	Create a phased ordinance by 2026 to ban the local operation of gasoline and diesel-powered off-road equipment by type (e.g., lawn and garden, construction), including banning local operation of gasoline and diesel-powered small off-road equipment (SORE) by 2028. Update the ordinance based on a regular review of relevant state regulations, regional rules, and available technology.	2030: 1,245 2045: 10,721
TR-6b	Establish a communication and outreach program to raise awareness of the ordinance, educate community members on the benefits of and funding opportunities for offroad decarbonization, and collect data on offroad fleet and decarbonization trends in the community (e.g., through outreach sampling and surveying).	
TR-6c	As part of Action TR-6b's program, investigate off-road equipment fleets in the City to identify fleets with the highest decarbonization potential, fleets owned by small and minority businesses that will need targeted support and incentives to decarbonize or electrify, and fleets that do not currently have zero-emission alternatives. Utilize these findings to develop the phased off-road ordinances.	
TR-6d	As part of Action TR-6b's program, develop a multi-lingual Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in the City, with a target towards those identified in Action TR-6c. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).	
TR-6e	Partner with surrounding jurisdictions and the Bay Area Air Quality Management District (BAAQMD) to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.	
Strategy SW: Solid Waste		
Measure SW.1. By 2025, reduce organics to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.		
SW-1a	Through MOUs with the City's waste haulers, establish requirements by 2024 for waste haulers to perform annual performance assessments to determine compliance with SB 1383 requirements. If the performance assessments show the hauler is not on target, meet with the hauler and RecycleMore staff to establish prioritized actions for the hauler and/or RecycleMore to complete. Additionally, utilize the assessments to identify trends in contamination and integrate lessons learned into the educational program as part of Action SW-1e.	2030: 2,934 2045: 3,570

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-1b	Partner with RecycleMore, Sustainable Contra Costa, or similar entities to complete community based social marketing (CBSM) targeted outreach and education campaign by 2025 to high organic generation commercial accounts to educate and train commercial generators' management and staff about best practices in food waste reduction and surplus food donation. As part of this effort, develop successful case studies for Pinole food facilities to provide best practices, cost savings and other methods to energize food facility managers and staff to fully participate in the organics diversion and edible food recovery programs.	
SW-1c	In concert with Economic Development programs, establish a downtown Pinole outreach campaign and recognition program by 2025 to celebrate restaurants/food facilities with the highest diversion and edible food recovery success. Create a space on the City's CAAP website to highlight the campaign and leaders in the community, as well as provide a plaque or alternative community recognition that emphasizes the successful initiatives.	
SW-1d	Establish a program by 2024 to distribute kitchen food pails at community events (e.g., Farmers Markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk), distribute food pails at grocery stores in lower-resourced areas, and directly connect with property owners of low/moderate income rental housing to distribute food pails directly to housing units. Through the program, track how many pails are distributed quarterly.	
SW-1e	Establish and maintain an ongoing education program informing the community about compostable materials and upcoming at-home composting workshops, including regularly updated guidelines on composting, especially paper, distributed bi-annually and made available at the City permit counter, grocery stores, as well as at farmers' markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk and other community events.	
SW-1f	Transform Pinole's "Dumpster Day" into "Resource Recovery Day," in both name and concept, by introducing a community swap meet where residents exchange/recycle household goods in preference to conventional commerce and waste. At the event, the City will provide education about organics diversion (including the concept of closing the loop for organics material and edible food recovery) and the "Buy Nothing" movement, and feature special compost giveaway events (e.g., free kitchen food pails).	
SW-1g	Work with local grocery stores and retail food markets, the Contra Costa and Solano Food Bank Rescue Program, RecycleMore, and community groups to understand the criteria for acceptable food for recovery and establish a more robust food rescue and distribution program to divert additional edible food to food insecure residents.	
SW-1h	Identify and support school organizations in the City (e.g., leadership, sustainability, and environmental groups or clubs) start "Go Organics" programs to initiate, educate, and implement robust organics collection programs on campus in collaboration with the City's waste hauler and RecycleMore.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-1i	Develop presentations for all schools in Pinole to: - Educate students, staff, and teachers on how to implement an efficient, yet robust organics collection program - Educate students, staff, and teachers on the benefits of diverting organics and reducing GHG emissions - Engage school leadership on the benefits of establishing a ‘closed loop partnership’ regarding organics. This could include adding organics end products such as mulch and compost delivered from the City’s waste hauler nearby composting facility to school gardens and landscaping, thereby eliminating need for pesticides and herbicides, and increasing water retention in school landscaping.	
SW-1j	Continue to partner with the City’s waste hauler to include quarterly multi-lingual inserts in residential and commercial billing to highlight important programs and initiatives, including the single-use plastic ban and the no-cost organics pails available to residents and the composting programs in Action ID SW-1h, as well as new programs as they are created.	
SW-1k	Develop a comprehensive outreach program to educate Homeowner Associations, neighborhood associations, and communities on social media platforms such as NextDoor on the City’s organic waste diversion requirements and available programs and resources to increase diversion.	
SW-1l	Implement a comprehensive organics collection and edible food recovery program for low income and fixed income people to ensure access to edible surplus food recipients such as food banks and other food recovery organizations.	
SW-1m	Fund the comprehensive organics collection and edible food recovery program using CalRecycle’s SB 1383 grant funding cycle.	
SW-1n	Partner with local waste management providers, food recovery organizations, and West Contra Costa Unified School District, private schools in Pinole, or similar entities, to analyze existing food waste generation, disposal practices, and potential sources of edible surplus food.	
SW-1o	Install compost bins throughout the City where there are landfill and recycling bins to collect organics generated. Incorporate the hauling requirements into the waste hauler’s contract to confirm proper management and disposal.	
Measure SW-2. Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.		
SW-2a	Adopt a Zero Waste Policy and Zero Waste Strategic Plan to guide and detail methods to meet the reduction target of 35% by 2030 and 90% by 2045. As a part of the Zero Waste Strategic Plan, adopt a Single-use Plastic Foodware and Bag Reduction Ordinance to phase in the reduction, and subsequent elimination of, single-use plastic foodware by food facilities.	2030: N/A 2045: N/A
SW-2b	Partner with an entity such as Terracycle to create a recycling program at City-owned and operated buildings and other community-based locations to collect hard to recycle products, such as snack pouches.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-2c	Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, engage local home improvement businesses and partner with the Pinole Library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available.	
SW-2d	Continue the City's single-use plastic education efforts and integrate the efforts into a citywide education program, 'Pinole's Path to Zero Waste,' to expand outreach and resources about zero waste goals and focus education on specific benefits to the City (e.g., reduction of single-use plastic pollution flowing into Pinole Creek and San Pablo Bay, community savings from reduce and reuse efforts).	
SW-2e	Partner with community-based organizations such as ReThink Disposables and RecycleMore to engage Bayfront Chamber of Commerce members and other Pinole businesses to educate the business community about the benefits of reusables and inform them about the new Single-use Plastic Foodware and Bag Reduction Ordinance.	
SW-2f	Work with compostable distributors to achieve competitive pricing for compostable foodware to increase compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance.	
SW-2g	Sponsor businesses to host refill pop-ups at community events (e.g., Farmers Market) where community members can purchase common household products and food in bulk using their own containers and create a network of local businesses that can provide the pop-up local, bulk products with zero-waste packaging.	
SW-2h	Secure financial grants and assistance from Rethink Disposables, CalRecycle's City/County Payment Program (CCPP), and others, to support businesses in developing pilot programs for reusable and returnable foodware and drop-off stations, purchasing and installing dishwashers, and overall gaining compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance. Highlight and support use of new grant funds available for small and minority-owned businesses to participate. Additionally, Seek grant funding to support pop-up repair cafes and a tool lending program.	
SW-2i	Create a Hazardous Waste Material Reuse Program that offers usable household hazardous waste collected at the West Contra Costa County Drive-Through to the community free of charge through a Material ReUse Store. Establish a schedule and location(s) to operate the Material ReUse Store alongside the household hazardous waste collection schedule and promote the store on the City's website and on the City's social media platforms.	
SW-2j	Partner with public schools to reduce single-use foodware, convert necessary single-use plastic foodware to compostable/reusable foodware, and educate students on closing the loop (i.e., Loop organics).	
Measure SW-3. Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.		
SW-3a	Include in, or amend, the franchise agreement with the City's waste hauler to require C&D diversion requirements with performance disincentives for non-compliance.	2030: N/A 2045: N/A

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-3b	Partner with RecycleMore and the City's waste hauler to complete an assessment of projects that were not compliant with the 65% diversion requirement. Determine an Action Plan to ensure similar future projects meet the 65% requirement. Complete ongoing review of projects collaboratively with RecycleMore to assess projects that are non-compliant and methods to ensure 65% diversion requirements are met.	
SW-3c	Fully engage and inform permit applicants of the 65% requirements at the very beginning of the planning, building, and inspection process and collaborate with Recycle More to integrate C&D diversion practices into the City's permit process.	
SW-3d	Create and distribute a Contractors Guide to educate contractors on the requirements to meet the program conditions that include pre-permit documentation weight tags, post-permit documentation, and consequences for not meeting minimum diversion requirements.	
SW-3e	Update C&D information on the City's website to include a more complete comprehensive list of documents, such as: ▪ Pre-permit requirements ▪ Green Halo system requirements ▪ Locations for C&D materials processing/diversion ▪ Weight tag requirements ▪ Post project requirements and signature ▪ Details regarding consequences for not meeting requirements.	
SW-3f	Partner with the City's waste hauler, RecycleMore and other C&D organizations to educate on best practices for meeting CalGreen 65% requirements as part of Program 9 in the Housing Element.	
SW-3g	Use financial grants and assistance from CalRecycle to fund and provide tools for low- and fixed-income projects to meet requirements.	
SW-3h	Continue to offer online-waste tracking options for the community through the Green Halo compliance system, or a similar system, which allows for receipts to be verified online, streamlining the processes substantially.	
SW-4. Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.		
SW-4a	Complete a feasibility study to identify local partners, analyze the potential waste volume, and assess facility upgrades needed to complete a pilot Organics to Energy Project at the WWTP and the potential cost and GHG emission reduction impacts of such a project.	2030: N/A 2045: N/A
SW-4b	Conduct case study assessments of other organics to energy projects at WWTPs to educate City decision makers, the public, and other interested parties on the feasibility of the pilot project and opportunities to enhance the WWTP for organic waste diversion.	
SW-4c	Partner with an organics-to-energy company to help assess the feasibility of a pilot project for the City and impacted communities.	
SW-4d	Pursue funding opportunities (e.g., CalRecycle) and financing alternatives to address capital costs for the pilot project.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-5. Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.		
SW-5a	Establish a program to procure and provide compost for: - The City's parks, recreation areas, schools' landscaping, and school gardens - Garden community organizations such as the Pinole Garden Club - Residential and commercial landscapers	2030: 425 2045: 513
SW-5b	Amend or otherwise ensure that the Franchise Agreement for the City's waste hauler will provide organic waste products at reduced cost.	
SW-5c	Establish a new program to deliver compost to local schools and community organizations. Expand free compost giveaways to residents, local urban farmers, and other organizations. Track the success of the program based on tons of compost given away and promote the program on the City's CAAP website and through the City's social media channels.	
SW-5d	Complete a feasibility study in collaboration with RecycleMore to identify cost-effective end uses for organic waste products and methods to distribute the products.	
SW-5e	Using established education materials from RecycleMore and other organizations, provide outreach and education to the City's garden community organizations such as the Pinole Garden Club, resident groups, and commercial landscapers in Pinole on the benefits of using organic end products such as compost and mulch.	
SW-5f	Partner with Republic Services, or others who own large composting operations in close proximity to the City to provide organic end product to the community at a cost-effective rate.	
SW-5g	Use the SB 1383 fee to pay for a portion of organic end use products. Use financial grants and assistance from CalRecycle to fund the purchase of organic end product. Focus effort on lower income projects to participate in program.	
SW-5h	Establish an online mapping location hosted on a City website to identify existing community gardens and make a list of potential underused park space for expansion, setting internal key performance indicators for number of new garden spaces.	
Strategy W: Water		
Measure W-1. Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.		
W-1a	Continue to implement and enforce Pinole Municipal Code Chapter 15.54 (Water Efficient Landscaping) to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf.	2030: N/A 2045: N/A
W-1b	Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies. The Ordinance will focus primarily on domestic water use, health and sanitation, and fire protection.	
W-1c	Perform a study to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance. The feasibility study will help the City determine the size threshold for future development projects subject to the Ordinance.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
W-1d	Upon completion of the Feasibility Study in Action W-1c, adopt an appropriate Dual Drainage Plumbing Ordinance.	
W-1e	Continue to comply with SB 1087 and Municipal Code Chapter 17.32 (Affordable Housing Requirements) requirements to provide priority water and sewer service allocations to affordable housing developments.	
W-1f	Continue to partner with East Bay Municipal Utility District's to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pinole, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens. Provide specific updates to the community as new programs are released, such as featuring a new indoor plumbing program to help Customer Assistance Program participants find and fix indoor leaks.	
W-1g	Implement a comprehensive, coordinated educational initiative focused on property owners, landlords, property management firms, homeowners' associations, and occupants to reduce water usage in homes and businesses. This campaign will incorporate the water conservation messaging of the East Bay Municipal Utility District (EBMUD), utilizing various communication channels such as publications, websites, community events, workshops, and bill inserts. It will also provide details on available incentives for water-saving appliances, fittings, fixtures, and efficient landscaping irrigation systems, including those offered by EBMUD. Additionally, the campaign will focus on reaching disadvantaged and vulnerable communities to alleviate the burden of utility bills.	
W-1h	Partner with EBMUD, the Contra Costa Master Gardeners and/or Pinole Garden Club to develop community programs to encourage water-wise landscaping and watering practices and to provide a hands-on learning experience such as sheet mulching lawn conversions for members of the community. Include promotion of EBMUD Lawn Conversion rebates.	
W-1i	Continue to partner with Rising Sun to provide Green House Calls to residents to provide high-efficiency fixtures/fittings and leak detection tests.	
W-1j	Work with EBMUD to provide existing commercial entities that have decorative or non-functional turf onsite with the education and resources necessary to transition to regenerative landscapes with a goal of replacing all existing commercial decorative or non-functional turf by 2030.	
Measure W-2. Increase the community's use, supply, and access to recycled water.		
W-2a	Continue to work with EBMUD to complete a feasibility study to identify opportunities to increase supply of recycled water to the City. The feasibility study will: - Analyze opportunities to expand purple piping infrastructure - Identify opportunities and technologies to increase recycled water supply - Evaluate potential impacts to cost of service - Investigate ways to maintain or decrease costs of service through the projects - Identify customers that would benefit from receiving recycled water within City of Pinole and adjacent to the City, in Hercules or other surrounding jurisdictions, as applicable	2030: N/A 2045: N/A
W-2b	Pursue funding opportunities at the state and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to fund recycled water infrastructure and to increase the equitable distribution of recycled water in the City.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
W-2c	Investigate working with EBMUD to promote the installation of greywater equipment in homes and businesses through a multi-lingual Laundry-to-Landscape outreach campaign. The campaign shall include: ▪ Educational information on the environmental and financial benefits of greywater systems ▪ Information on how to install and use the systems, including information on EMBUD greywater rebates ▪ Distribution of educational materials at the City's permitting counter ▪ Supplemental event(s) hosted with EBMUD or industry expert to educate community members on the installation and use of the systems, including an existing residential greywater system demonstration. ▪ Direct outreach to multi-family property owners.	
W-2d	Create and implement a phased outreach campaign to educate the community on the benefits of recycled water as well as dispelling misconceptions to and increase community use.	
W-2e	Upon completion of the feasibility study to identify opportunities to increase supply of recycled water to the City, work with EBMUD to develop a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used.	
Strategy CS: Carbon Sequestration		
Measure CS-1. Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.		
CS-1a	Develop and adopt a Community Urban Forest Plan by 2026 to identify and prioritize tree planting areas in the City. The Plan will: ▪ Inventory the existing urban forest as a baseline and identify areas in Pinole that have below average canopy coverage (such as census block groups 60133640021, 60133640023, and 60133922004) and high urban heat island effects. ▪ Design a tree planting program focused on eliminating significant difference in canopy coverage between census blocks by 2040. ▪ Identify a phased timeframe for program implementation. ▪ Establish a management plan for existing trees that will focus on promoting street tree health, enhancing resilience, increasing the environmental benefits and co-benefits from trees, and engaging the community in urban forest management. ▪ Establish a tracking system to assess progress towards annual goals and annual benchmarks.	2030: N/A 2045: N/A
CS-1b	Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the Urban Forest Inventory and Management Plan and share the plan on the City's website.	
CS-1c	Continue protecting existing trees on private property through the provisions of PMC Chapter 17.96 (Tree Removal) and amend the Municipal Code to require as a condition of approval when a Tree Removal Permit is issued either planting on-site replacement trees or paying an in-lieu fee equal to at the value of the protected tree.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CS-1d	Prioritize tree implementation in areas with populations most at risk to extreme heat impacts (older adults, children, outdoor workers, individuals with disabilities, transit dependent individuals, and individuals with chronic health conditions) pursuant to the Urban Forest Inventory and Management Plan.	
CS-1e	Review, enhance, update, and regularly maintain the City's existing "Tree" webpage with relevant information, such as best practices for watering and fertilizing trees, guidelines for pruning and maintenance, information on local tree species, and resources for reporting tree damage or disease. Additionally, provide information on the benefits of a healthy tree canopy, including improved air and water quality, reduced urban heat island effects, and increased property values.	
CS-1f	Amend the Municipal Code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment.	
CS-1g	Continue to pursue and obtain grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Cal Fire's Urban and Community Forestry Program, and the California Natural Resources Agency's Urban Greening Program) available grants for tree planting and urban greening projects.	
CS-1h	Develop a City incentive program for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below average tree equity or canopy coverage, pursuant to the Urban Forest Inventory and Management Plan.	
CS-1i	Partner with a local nursery to host regular tree planting events and volunteer opportunities to engage community members in the effort to maintain and expand the local tree canopy.	
CS-1j	Work with a community non-profit organization to develop an adopt a tree program increase the urban tree canopy in marginalized communities	
CS-1k	Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing and planting trees in prioritized areas pursuant to the Urban Forest Inventory and Management Plan, paying for tree maintenance in disadvantaged and vulnerable communities in the City, or supporting staff resources for the Urban Forest Management Program.	
Measure CS-2. Increase nature-based and technological carbon sequestration and capture opportunities in Pinole.		
CS-2a	Seek funding to conduct a study to quantify the carbon stock in existing Pinole blue carbon ecosystems (e.g., eelgrass in San Pablo Bay) and quantify the carbon sequestration potential of blue carbon restoration and expansion.	2030: N/A 2045: N/A
CS-2b	Partner with concrete producers to research opportunities for technological carbon sequestration in Pinole including potential funding mechanisms (e.g., Verra's Methodology for CO ₂ Utilization in Concrete Production).	
CS-2c	Based on the studies, develop a plan to increase carbon sequestration in Pinole. The plan shall include a quantitative carbon sequestration target to achieve by 2045 and a process for regular monitoring of carbon stocks.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CS-2d	Create an educational campaign that informs members of the community about the benefits and methods associated with carbon sequestration and capture that avoids jargon and clearly explains the opportunities and benefits in the City. Confirm that the educational materials are provided in a multi-lingual, culturally considerate manner and distributed specifically to disadvantaged community members.	
Adaptation		
Strategy CAR: Community Adaptation and Resilience		
Measure CAR-1. Establish a reliable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.		
CAR-1a	Conduct an assessment on the effectiveness of current City resilience center operations. Conduct a study regarding the feasibility of additional community locations (e.g., Pinole Youth Center and Pinole Library) that could serve as resilience centers by evaluating current amenities and resources available. As part of the studies, verify that the needs of vulnerable populations are met during climate hazard events and host focus groups with selected community-based organizations and other interested parties to identify needs for their service population.	N/A
CAR-1b	Identify and apply for funding opportunities that support development of a resilience center, and/or staff positions to maintain the center, such as the Office of Planning and Research Regional Resilience Grant Program.	
CAR-1c	Utilizing the City's "Energy Conservation, Generation, and Storage Assessment" conducted in 2024, establish an upgrade and maintenance cycle, including replacement of filters with at least a MERV 11 rating on a quarterly basis for all existing HVAC systems in City owned buildings.	
CAR-1d	Work with WestCAT to establish a list of vulnerable community members (e.g., older adults, who may not be able to access a vehicle or public transportation during a heat wave), as well as a program to transport them to established resilience centers.	
CAR-1e	Provide essential resources such as health programs, food, refrigeration, charging stations, basic medical supplies, and other emergency supplies at all City resilience centers, as well as educational materials on resources and climate adaptation and preparedness. Audit and refresh supplies on a biannual basis, including information on any new or updated programs or resilience center locations.	
CAR-1f	Partner with local public or private entities to establish resilience centers at privately owned facilities in the City.	
Measure CAR-2. Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.		
CAR-2a	Review and update the City's Emergency Information webpage ²¹ to reflect ways to prepare for events that may be likely to increase due to climate change, including wildfires, floods, extreme precipitation, extreme heat, poor air quality, and drought, as well as heat-related illness, exacerbate mental stress, and respiratory diseases	N/A

²¹ <https://www.ci.pinole.ca.us/cms/One.aspx?portalId=10947056&pageId=14640371#emergency>

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CAR-2b	Assess current City capacity to shelter displaced residents including facilities, infrastructure, services, and community programs during an extreme weather event.	
CAR-2c	Partner with community-based organizations to establish a working group to develop designated temporary housing options for wildfire displaced residents to live in for up to two years after their home is destroyed or severely damaged.	
CAR-2d	Require that all emergency preparedness and evacuation communications are provided in plain language and translated into Spanish, Tagalog, and Cantonese to support non or limited English speakers. Increase participation in emergency notification systems including the Community Warning System and PG&E Community Wildfire Safety Program through social media campaigns and physical flyer distribution.	
CAR-2e	Provide administrative support and dedicate staff time for grant writing and funding tracking for climate adaptation and resilience projects, including opportunities to increase and enhance communication such as preparation of interactive websites and information sharing resources.	
CAR-2f	Identify critical facilities in need of reliable sources of sustained electrical power during events of extreme climate. Assess power loads at each critical facility, determine costs and technology options for battery storage, and make any additional recommendations to the City Council prior to advancing construction.	
CAR-2g	Utilize Pinole Community Television (PCTV) to provide consistent information to community members about adaptation preparedness by providing multi-lingual information that is accessible for people including seniors, individuals with disabilities, children, and caregivers.	
CAR-2h	Create evacuation procedures for vulnerable populations in partnership with community-based organizations and facilities that serve identified populations. Host and/or participate in in-person engagement and incorporate games/activities to educate the community on preparedness.	
CAR-2i	Require that the City's resilience centers have adequate backup power sources and battery storage to mitigate service disruptions and provide redundancy in the event of a power outage.	
Strategy FL: Flood Control		
Measure FL-1. Improve the quality of and reduce the quantity of stormwater runoff through Implementation of the Pinole Green Infrastructure Plan.		
FL-1a	Prepare a feasibility study to investigate potential infrastructure improvements to relocate critical City infrastructure, such as the Senior Center, Pinole Police Department, and Tiny Tots, from the 100-year flood zone. The feasibility study would include: 1. Identifying potential alternative locations for the City's critical infrastructure that's located in the 100-year flood zone. 2. Preliminary design and construction of new buildings or facilities. 3. Analysis of costs associated with relocating facilities as well as the potential costs of doing nothing. 4. Outreach to community members and other interested parties to confirm that the relocation aligns with the community's needs.	N/A
FL-1b	Continue participation in the Contra Costa County Multi-jurisdictional Hazard Mitigation Plan update; identify flood mitigation actions eligible for grant funding through FEMA hazard mitigation assistance programs.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
FL-1c	Encourage landlords to consider how to prepare their properties for flooding by providing retrofit informational resources and educate them on prioritizing low-impact stormwater best practices.	
FL-1d	Create educational campaigns that connect with vulnerable populations to increase awareness and knowledge of how to mitigate and weather flooding.	
FL-1e	Identify and apply for grant opportunities to fund stormwater related projects from sources such as the State Water Resources Control Board, California Natural Resources Agency, the Coastal Conservancy, California Water Foundation, as well as the United States Environmental Protection Agency and the United States Department of Agriculture.	
FL-1f	Review existing best practice and conduct studies of combined riverine/ shoreline flooding and increased severity of rainfall events on watershed flooding.	
FL-1g	Complete the Storm Drainage Master Plan as identified in the Capital Improvement Plan to thoroughly investigate deficiencies in the existing storm drain system and prioritize infrastructure improvements.	
FL-1h	Implement stormwater and drainage projects identified in the City Capital Improvement Plan, to mitigate localized flooding incidents.	
FL-1i	Conduct post-flood inspections for residents and business owners upon request and provide post-disaster home repair and technical assistance for vulnerable communities.	
Strategy SLR: Sea Level Rise		
Measure SLR-1 Create, restore, and protect natural coastal ecosystems.		
SLR-1a	Conduct a shoreline stabilization study to determine the most effective methods for protecting Pinole's coastal communities and infrastructure from erosion and sea level rise, and to identify opportunities for restoring natural shoreline habitats that can serve as a buffer against storm surges and other impacts of climate change. The study would involve the following: 1. Assessing the physical characteristics of the shoreline 2. Evaluating the potential risks and benefits of different stabilization techniques 3. Engaging with local community members and other interested parties to ensure that the chosen strategies align with community needs and values 4. Prioritizing options that enhance and maximize shoreline resources and access including considering innovative nature-based solution approaches	N/A
SLR-1b	In collaboration with Contra Costa County and state agencies, develop a sea level rise resilience and adaptation strategy with shoreline restoration projects using innovative nature-based solutions and green engineering that would enhance public access, shoreline habitat (e.g., re-establishing native dune habitats, wetlands, and lagoons) and increase shoreline recreational opportunities.	
SLR-1c	Partner with the San Francisco Bay Conservation and Development Commission (BCDC), and/or similar entities, regarding regional approaches, strategies, and mitigation actions to address sea level rise. Implement a Shoreline Management Plan, and/or a Shoreline Monitoring Program that would identify erosional hotspots and timely response.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SLR-1d	Establish annual budgets for projects within and benefiting vulnerable populations (2016, Assembly Bill 1550), including seniors, individuals with disabilities, children, low-income communities, and communities in low-lying areas.	
SLR-1e	Research external funding opportunities, including grants to support shoreline resilience, shoreline restoration projects, or beach nourishment (e.g., Living Shoreline and Nature-based solution projects). Examples of grantee agencies are California Coastal Conservancy, California Coastal Commission, California Ocean Protection Council, NOAA, California Division of Boating and Waterways.	
SLR-1f	Identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. It might be done through the designation and zonation of lands into a Local Coastal Program or providing additional incentives to encourage creation of new recreation areas or opportunities. Additionally, plan for future shoreline recreational space and parkland by protecting open space adjacent to shoreline habitats, allowing the beach and habitats to migrate into these spaces.	
SLR-1g	Partner with West Contra Costa Unified School District, private schools in Pinole, East Bay Parks, East Bay Municipal Utility District, Friends of Pinole Creek Watershed, 350 Contra Costa, or similar entities to create educational opportunities for the community around the Pinole Creek Watershed. These programs would focus on educating youth in Pinole on the importance of natural shoreline ecosystems, their role in climate resilience, biodiversity, and local, native species. The programs would also include information on how people can actively get involved in adapting to climate change in their homes and neighborhoods and provide hands-on volunteer opportunities for the community to participate.	
SLR-1h	Increase the City's near and long-term capacity building to be able to develop and implement thoughtful shoreline resilience projects by creating a position for and hiring a shoreline resilience expert. The specific title may vary depending on the individual's background and the focus of their work within the broader context of climate change and sea level rise.	
Strategy EH: Extreme Heat		
Measure EH-1. Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.		
EH-1a	Partner with West Contra Costa School District and the private schools in the City to map out each campus in Pinole to understand the current infrastructure and then develop a plan to reduce the heat islands in Pinole's schools and adjacent areas, including on walking routes by plant trees or increasing shade structures as appropriate.	N/A
EH-1b	Establish a tree removal replacement policy where trees that are removed are replaced with shade trees that are adapted to the area.	
EH-1c	In collaboration with Contra Costa Health Services, establish local early heat warning system that provides public health alerts in Spanish, Tagalog, and Cantonese.	
EH-1d	Complete an assessment that evaluates new cool pavement technology, cost/benefits, and challenges and opportunities. Upon completion of the study, conduct a pilot of cool pavement application at a centralized area in Pinole that is most impacted by extreme heat to demonstrate success of the program.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
EH-1e	Partner with WestCAT to audit existing bus stops in the City of Pinole with information detailing the current structures around the transit stops. Create a prioritization list of stops with low shading scores. Identify opportunities to add, replace, or upgrade existing transit stop shelters to provide increased shade for the transit riders and work with WestCAT to implement the identified opportunities.	
EH-1f	Identify trees, grasses, and shrubs with greatest cooling benefits and maximum biodiversity potential and plant them in prioritized open spaces.	
EH-1g	Identify grant funding opportunities and engage with local nurseries (e.g., Oaktown, Watershed Nursery, and Native Here) and tree planting programs to identify appropriate and cost-effective California native plants/trees that can be both planted in the ground or remain potted by residents living in rental/multi-family homes.	
EH-1h	Amend the Building Code to require cool roofs for all new construction.	
EH-1i	Partner with MCE and emergency management services to establish backup power and energy grid shutdown protocols that protect the most vulnerable populations (e.g., seniors, individuals with chronic health conditions, children, individuals with disabilities).	
EH-1j	Identify opportunities to apply compost as mulch at City open spaces to improve water-holding capacity and filtration to combat extreme heat.	
EH-1k	Identify a location in the City to establish a “Community Corner” redevelopment project as a model design project to reduce urban temperatures. Incorporate trees, grasses, and shrubs with the greatest cooling benefits into the project, utilize compost in the project’s landscaping, and incorporate cool pavement technology, cool roofs, and shade structures where applicable. Further consider incorporating a rain garden and resilience center resources into the redevelopment project and publicize all resilient design elements through signage on the property and community tours.	
EH-1l	Support development of community-serving microgrids and prioritize areas with high social vulnerability.	
Measure EH-2. Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.		
EH-2a	Partner with NASA, or a similar organization to create a digital map of the City showing neighborhoods where it is the hottest and identify a location or locations to pilot an urban heat mural project.	N/A
EH-2b	Post the map on the City’s website and host community feedback sessions to update the analysis included in the map based on real lived experiences. Additionally, post mural design concepts that are created as part of Action EH-2c to foster a sense of ownership over the project.	
EH-2c	Create a partnership with Contra Costa College, Pinole Artisans, West Contra Costa Unified School District, private schools, and/or similar interested parties and community-based organizations to design and paint mural(s) that inspire the community while reducing indoor heat using reflective paint.	
EH-2d	Install indoor and outdoor temperature sensors in the identified locations prior to completing the mural and continue to track data after the murals are installed to measure indoor changes in temperature to quantify the benefits of the project.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
EH-2e	Identify and apply for grants to fund the completion of the mural and/or work with cool paint manufacturers to supply a small amount of paint at no cost for a pilot project where their name would be included on a plaque with volunteer artists who partner with the City to donate their time and expertise to create a unique project.	
EH-2f	Host a community unveiling ceremony where the artists and project partners are invited to participate in a meet and greet and celebrate the community in an unveiling celebration that can also be used to provide the community with information on the status of the Climate Action and Adaptation Plan implementation and resources including relevant community incentives and rebates.	
Strategy WF: Wildfire		
Measure WF-1. Enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers and direct flame impingement in fire hazard severity zones and protect the community from wildfires.		
WF-1a	Partner with Housing Authority Contra Costa to conduct a study that estimates potential housing displacement impacts associated with wildfire events.	N/A
WF-1b	Conduct a feasibility study and if recommended, amend the Pinole Building Code Title 15 (Building and Construction) to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone.	
WF-1c	Develop a subsidy program to improve air quality in the homes of low-income residents or vulnerable community members to mitigate impacts from wildfire smoke.	
WF-1d	Partner with West Contra Costa Fire Safe Council to help secure grant funding for mitigation activities that promote fire safe retrofits of existing structures that meet ignition-resistant building codes.	
WF-1e	Conduct a built asset vulnerability assessment to identify which City-owned facilities and infrastructure have the highest risk to wildfire impacts, identify opportunities to mitigate risk and implement changes.	
WF-1f	Evaluate and help identify and apply for funding for infrastructure improvements at Pinole Fire Station 74 to mitigate against wildfire hazards (fire breaks, fire resistant building materials, etc.).	
WF-1g	Actively engage in collaborative efforts to reduce wildfire risks, implementing effective mitigation strategies, and fostering a culture of fire safety through education and community involvement to achieve Firewise ²² recognition.	
WF-1h	Prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas.	

²² Firewise USA® recognition program is administered by the National Fire Protection Association (NFPA) and provides a collaborative framework to help neighbors in a geographic area get organized, find direction, and take action to increase the ignition resistance of their homes and community and to reduce wildfire risks at the local level. The Firewise USA program is a part of California's efforts to ensure communities are prepared against wildfire, and CAL FIRE Office of the State Fire Marshal's new Community Wildfire Preparedness & Mitigation Division works to assist local communities in receiving this designation.

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
WF-1i	Continue to conduct proactive vegetation/weed abatement enforcement by removing vegetation and/or brush in areas adjacent to wildfire hazard zones, including both public and private property. Establish a comprehensive defensible space zone and fire breaks within the VHFHSZ, and a regular maintenance schedule. A FEMA approved HMP can establish eligibility for grant funding to complete fuel modification projects.	
WF-1j	Locate future critical facilities outside of the wildfire hazard zone.	
WF-1k	Continue to coordinate with PG&E through Rule 20A Program to underground utility lines to mitigate wildfire risk.	
WF-1l	Conduct on-going workshops on defensible space, vegetation management, and home-hardening techniques based upon most up to date CAL FIRE management guidelines and policies for landowners in fire hazard severity zones.	
WF-1m	Foster a community partnership that can successfully apply for and receive funding from programs such as the CAL FIRE Defensible Space Assistance Grant program and upcoming opportunities that become available.	
Municipal		
Strategy CIO: Strategy CIO: City Infrastructure and Operations		
Measure CIO-1. Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.		
CIO-1a	Adopt an electrification ordinance in 2024 requiring all new municipal construction to be fully electric after calendar year 2024 without any natural gas connections.	N/A
CIO-1b	Complete an analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system. Pursue replacement funding through PG&E on-bill financing and California Energy Commission (CEC) 1% Loans.	
CIO-1c	By 2025, adopt a Resolution requiring the implementation of a building and facility electrification plan to electrify or otherwise decarbonize all municipal buildings by 2035.	
CIO-1d	Develop a plan to electrify or otherwise decarbonize all municipal buildings and facilities by 2035 which will include: - An inventory of existing fossil fuel-powered buildings and facility equipment, available electric or zero/low-carbon alternatives for replacing each, and relevant costs and benefits of replacing each (e.g., lifespan, equipment costs, operational quality). - A prioritized schedule for completion based on potential to reduce natural gas and propane usage. - Prioritize upgrades that benefit vulnerable communities first, such as the Senior Center, Youth Center, and Tiny Tots facilities.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-1e	Expand efforts to obtain funding for municipal building and facility decarbonization through grants, incentives, or financing provided by entities such as: - DOE Block Grants - Leases: Capital lease, Operating Lease, Tax-Exempt Lease purchase (4-5%) - Loans and Grants: 1% CEC Loan, Dept. of Energy Grants, Federal Grants (IIJA, IRA) - On-Bill Financing - Energy as a Service (EaaS) - Energy Savings Performance Contract (ESPC, guaranteed energy savings help pay for the project) from Energy Service Companies (ESCOs) - Grant Anticipation Notes or other Short-Term Notes/Loans	
CIO-1f	Upgrade all municipal electricity accounts to MCE Deep Green by 2025.	
CIO-1g	Plan, fund, and conduct an electrification pilot project at a municipal facility (e.g., the Library). Promote the demonstrated benefits of the fully electric building (e.g., cost-savings, GHG emission reductions) and publicize the planning, design, installation, and post-operation of the project to make the steps to electrification transparent to the community.	
CIO-1h	Partner with regional organizations such as the Building Decarbonization Coalition to train City staff, community members and volunteers on the benefits and technical requirements of electrification, help them implement the building and facility electrification plan and empower them to be advocates for electrification across the community.	
Measure CIO-2. Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.		
CIO-2a	Expand and update the City's fleet vehicle replacement schedule to transition 30% of the municipal vehicle fleet to ZEVs by 2026 and 100% by 2040. Review the replacement schedule and ZEV transition goals every 2 years and update them as needed based on updates to state regulation and ZEV market availability.	N/A
CIO-2b	Complete a Municipal Electric Vehicle Infrastructure Plan to analyze the City's charging needs through 2026 and 2040. The plan shall include: - A prioritized list of City-owned properties/locations to install new Level II and DC Fast chargers - An assessment of future electricity demand and potentially energy-constrained locations - A pathway to coordinate with PG&E on installing microgrids or back-up power at City-owned properties to support the ZEVs	
CIO-2c	Secure funding from state programs (such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program) and federal sources to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally, explore opportunities for Low Carbon Fuel Standard credit generation from use of low carbon fuels/electricity for fleet vehicles.	
CIO-2d	Dedicate staff time to implementing, tracking, and updating the City fleet vehicle replacement plan bi-annually.	
CIO-2e	Partner with an entity such as Contra Costa Transportation Authority, to train City staff on the use and charging of electric and zero-emission vehicles and educate them on the benefits of EVs/ZEVs.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-2f	Consider highlighting the City's EV/ZEV fleet at community events such as Earth Month.	
CIO-2g	Establish electric vehicle charging infrastructure at and around all City-owned facilities. Apply the profit from community charging towards installing electric vehicle infrastructure in vulnerable communities. Additionally, develop a thoughtful pricing plan that is reviewed and updated annually, or more frequently as appropriate.	
Measure CIO-3. Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.		
CIO-3a	Complete an inventory of all municipal off-road equipment and determine which equipment types are possible to decarbonize based on existing technologies. Complete a cost analysis and schedule for decarbonizing.	N/A
CIO-3b	Adopt an emissions-free equipment purchasing policy by 2025 for light-duty vehicles and small off-road equipment and vehicles to require purchase and replacement of such categories be electric or emissions-free. Regularly update the policy to include more types of equipment and vehicles as electric and emission-free options become available. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives as well as the health benefits, for residents and businesses.	
CIO-3c	Dedicate staff time to implementing and tracking the success of the emissions-free purchasing policy established as part of CIO-3b.	
CIO-3d	Dedicate staff time and pursue funding opportunities to electrify and otherwise decarbonize municipal off-road equipment through programs such as: - CORE Incentives - Bay Area Air Quality Management District (BAAQMD) incentives including the Carl Moyer Program	
CIO-3e	Partner with the East Bay Regional Park District to co-lead a multi-lingual educational program for staff and City contractors detailing the benefits of using decarbonized off-road equipment, with an emphasis on improved worker health and details on comparable equipment productivity. Information from the educational program should be summarized into an infographic format and posted at parks, City-owned and operated buildings, and shared in the City's newsletter to highlight the emissions and overall health benefits in a way that is easily understood.	
CIO-3f	By 2030, begin procuring biofuels (e.g., biodiesel and biogas) to operate municipally owned off-road equipment with no existing opportunities for electrification. Re-evaluate electrification opportunities regularly to ensure biofuels are not being used for equipment that could otherwise be electrified.	
Measure CIO-4. Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.		
CIO-4a	With employee input, develop a municipal Transportation Demand Management (TDM) Plan by 2028 to encourage and incentivize City employees to reduce their VMT in single-occupancy and fossil-fuel-powered vehicles. Update the plan every 2-3 years based on survey results (e.g., Action CIO-4d) and newly available public transit and bike routes in the community.	N/A

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-4b	Create an incentive program to reward City employees for biking, ridesharing, and using public transit to commute to work. The program shall provide free public transit passes and free access to electric bicycle programs (where available) to all municipal employees and may include cash incentives or additional paid time-off for employees who bike, rideshare, and use public transit to commute to work.	
CIO-4c	Investigate the opportunity to create zero-interest loan program to help employees purchase ZEVs for commute.	
CIO-4d	Develop a remote work policy that encourages municipal office employees to work from home and includes alternative work schedules where feasible.	
CIO-4e	Explore options for installing showers in existing City-owned facilities and bike lockers along City-owned streets, where appropriate, to encourage City employees to bike to work and demonstrate the City's commitment to sustainability and community bicycle safety.	
CIO-4f	Partner with an entity such as the WestCAT or the Bay Area Air Quality Management District (BAAQMD) to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools. Additionally, partner with 511 Contra Costa to help employees find a carpool match.	
CIO-4g	Promote and encourage employee participation in regional and national bike-to-work days/months.	
CIO-4h	Develop funding sources to support incentives for City employees to commute to work via EV/ZEV options such as free or discounted employee charging at work.	
CIO-4i	Publish the municipal TDM Plan on the City's website and distribute to local businesses to provide the community an example of comprehensive TDM plans that focused on GHG emission reductions and equity.	
CIO-4j	Conduct a survey for City staff commute data annually to monitor emissions, identify potential gaps in planning, and better understand how to elicit employee transportation behavior change. Include space for employee feedback and identification of barriers to commuting without a personal vehicle.	
CIO-4k	Dedicate staff time to develop, implement, and update the municipal TDM Plan and conduct the annual survey.	
Measure CIO-5. Reduce waste generation by 15% by 2025, from 2019 levels and landfill zero waste by 2035.		
CIO-5a	Conduct an indoor and outdoor water audit at all municipal buildings and schedule develop a schedule for water efficiency improvements.	N/A
CIO-5b	Adopt a Resolution and assign funding to retrofit or replace all inefficient shower heads, faucets, washing machines, and toilets with low-flow fixtures/water-efficient appliances in existing City-owned, managed, or operated facilities, such as, but not limited to, the Pinole Swim Center, Pinole Senior Center, Pinole Youth Center, and Public Service Facilities by 2030.	
CIO-5c	Update the municipal purchasing policy to require WaterSense labeled fixtures and appliances, where feasible. This includes continuing to install waterless units such as urinals and sensor activated sinks.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-5d	Require all non-functional lawns (i.e., grass that is ornamental and not used for recreational purposes) on City-owned property to be removed by 2035 and replaced with native and drought-tolerant landscaping and/or multi-use landscaping (e.g., pollinator-friendly landscapes, edible landscapes).	
CIO-5e	Identify, track, and actively pursue funding opportunities from entities such as the California Department of Water Resources and the California Environmental Protection Agency.	
CIO-5f	Partner with the Pinole Community Garden Club, Contra Costa County Master Gardeners, or Bringing Back the Natives to educate City employees and the community on water-wise gardening practices, native plants, and growing food, with a focus on the most vulnerable communities.	
CIO-5g	Develop and implement a plan to update City-owned properties with improved green stormwater infrastructure (e.g., stormwater systems that direct water towards vegetation, permeable surfaces).	
CIO-5h	Install submetering at City owned and operated buildings and facilities to track and monitor water use, including creating a succinct way to internally track specific use and complete repairs or prepare targeted education.	
CIO-5i	Install rain barrels at the Library to water the native garden as a demonstration project to educate the community about the benefits of collecting rainwater and available incentives. Based on the project's success, consider installing rain barrels at all City facilities for use in landscaping.	
Measure CIO-6. Reduce municipal water consumption 10% by 2030, from 2019 levels.		
CIO-6a	Require implementation of the Single Use Plastic Ordinance at all City departments, events, and contracts.	N/A
CIO-6b	Provide reusable mugs and foodware items to all new and existing employees to use in an effort to encourage the use of reusable alternatives to single-use items. Provide information on the benefits of reusing resources.	
CIO-6c	Complete an audit on current bin infrastructure and bin signage in each municipal facility and at City events. Establish a clear plan to install/distribute adequate compost and recycling bins throughout all facilities and to all events, and improve signage so that accepted landfill, recyclable, and compostable materials are clearly identified for each bin.	
CIO-6d	Partner with an entity such as Republic Services to provide annual training to City employees on current waste management practices, any modifications to the practices, and proper disposal methods. Empower them to educate the community on the benefits and proper methods of recycling and composting and use this as an opportunity to promote the City's existing programs, such as the free mulch program, shredding program, household hazardous waste collection, as well as expand programs as appropriate.	
CIO-6e	Work with CalRecycle and similar entities to identify and secure grants that fund waste diversion and educational programs.	
CIO-6f	Create a shared resource area within each City-owned facility dedicated to lightly used office supplies such as staplers, tape dispensers, pens, and pads of paper, facilitating the reuse of items among staff members and promoting efficiency and reducing waste.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-6g	Partner with local jurisdictions including surrounding cities and the county to create an inter-office or inter-jurisdiction surplus program where City offices can provide items (e.g., pieces of furniture) for reuse for free to other offices within the City or other jurisdictions.	
CIO-6h	Create a buy-nothing group for City staff to share resources and items that they may no longer be interested in or have a use for at their homes.	
CIO-6i	Perform a waste audit every two years to track waste sources, gaps in signage and education, and opportunities to strengthen the purchasing policy (e.g., based on problem-some materials continuing to the landfill or the contaminating recycling and composting streams).	
Measure CIO-7. Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.		
CIO-7a	Complete a feasibility study to evaluate various options for infrastructure improvements of Pinole-Hercules Water Pollution Control Plant to mitigate against sea level rise and flood hazards. Develop a long-term management plan to address impacts of sea level rise, which incorporates any potential maintenance, relocation, or retrofits and structural changes to accommodate changes in sea level.	N/A
CIO-7b	Collaborate with the San Francisco Bay Regional Water Quality Control Board to increase the Pinole-Hercules Water Pollution Control Plant's resilience to sea level rise and stronger storms. For example, implement a trigger-based Coastal Hazard Monitoring Program, which would allow to implement improvements or relocate in a timely manner, and conduct feasibility studies from technical experts, retrofitting, relocating, or eliminating outfalls deemed "at risk."	
CIO-7c	Provide alternate routes and ensure redundancy of critical transportation routes, as possible, to allow for continued access and movement to and along the coast in instances in which sections of roadways may become temporarily impassible because of shoreline hazards. Additionally, inform City staff, residents, and visitors about alternate routes to shoreline areas.	
CIO-7d	Host working groups with community-based organizations, experts in the field, and interested parties to identify and prioritize vulnerable communities, involve them in decision-making, use community benefits agreements, prioritize underserved communities, and consider the financial impact on residents.	
CIO-7e	Identify and apply for a grant funding source to fund facility upgrades, relocation, or additional analysis through entities such as the San Francisco Bay Conservation and Development Commission, California Coastal Commission, National Oceanic and Atmospheric Administration (NOAA), or Federal Emergency Management Agency (FEMA).	
CIO-7f	Conduct a detailed and City-specific groundwater emergence threat assessment, factoring in local geomorphology and groundwater data, for use in future planning and analysis.	
CIO-7g	Incorporate policy guidance and model ordinance language in Citywide plans, policies, and regulations to prioritize strategies that reduce potential impacts due to sea level rise and shoreline hazards and increase the resilience of the City's shoreline areas.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy CG: City Governance		
Measure CG-1. Build staffing capacity to effectively implement the CAAP Mitigation Measures and update the CAAP triennially.		
CG-1a	Create a new full-time staff position to oversee CAAP implementation, monitoring, and reporting; and cross-department collaboration (i.e., Climate Coordinator work in Action CG-1).	N/A
CG-1b	Identify a Climate Coordinator from each of the City's main departments and divisions. The Climate Coordinators will meet for quarterly sustainability peer-to-peer information sharing sessions to discuss challenges, brainstorm solutions, and track progress towards reaching the City's CAAP key performance indicators. This team will serve as the key organizers for cross-departmental collaboration needed to implement climate goals, as well as community contacts and key researchers for emerging technologies and best practices in climate action.	
CG-1c	Conduct an annual staff survey to determine the following: - Existing staff interest in leading climate initiatives to identify internal champions. - Staff capacity to implement CAAP actions, monitor progress, and report updates; and associated capacity gaps to fill.	
CG-1d	Include a description of Pinole's climate goals and values in job postings, improving talent acquisition and potentially boosting retention and worker morale.	
CG-1e	Identify and apply for climate staffing assistance through fellowship/internship programs including the Climate Corps Fellowship, California Pacific University, and CivicSpark to increase internal staff capacity for CAAP implementation and bring in innovative ideas.	
CG-1f	Earmark funding for CAAP updates.	
Measure CG-2. Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.		
CG-2a	Join the Institute for Local Government's Beacon Program to support transparent CAAP reporting through access to technical assistance, regional networking and education opportunities, and opportunities to recognize Pinole's climate action achievements.	N/A
CG-2b	Conduct a communitywide GHG inventory every two years and a municipal GHG inventory every five years.	
CG-2c	Report communitywide GHG emissions and progress on Mitigation Measures annually through public reporting tools (e.g., CAPDash) and utilize social media to post updates and results so the community can easily stay up to date.	
CG-2d	Regularly update Pinole's CAAP webpage, Sustainability webpages (e.g., Community Choice Energy, EV Charging Stations, Single Use Plastic Reduction), and applicable Public Works webpages (e.g., Water, Garbage and Recycling, Trees) to provide up-to-date information on ordinance, program, and policies as they are updated through CAAP implementation.	
CG-2e	Explore and track the success of different ways to communicate climate progress transparently to the public (e.g., a dashboard, semi-regular social media posts, City webpages, Pinole TV). Track the number of clicks made on specific links to identify the most successful mechanisms for engagement.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CG-2f	Translate key climate outreach materials into non-English languages. Explore partnerships through nonprofits and other organizations that can assist in translation of key materials.	
CG-2g	Communicate Pinole's climate and green economic development commitments through City branding and communications (beyond dedicated webpages and resources) and utilize existing City meetings and events to emphasize the importance of climate action and bring it into regular City and community discussions.	
CG-2h	Earmark annual funding for the CAAP update in the budget to demonstrate commitment to implementation and monitoring and to provide a consistent conduit of funding.	
Note: MT of CO ₂ e = metric tons of carbon dioxide equivalent		
Source: Compiled by Rincon based on information contained in the Draft Pinole Climate Action and Adaptation Plan.		

The measures and actions shown above in Table 2, combined with existing State legislation and City initiatives, would enable Pinole to meet its GHG emissions reduction target pathway to reduce GHG emissions 40 percent below 1990 levels by 2030. Table 3 summarizes the communitywide GHG emissions forecasts under the BAU and ABAU scenarios, as well as with implementation of the Pinole CAAP, beginning from 2025 through 2045.

Table 3 Pinole 2030 GHG Emissions Forecasts (MT of CO₂e)

GHG Emissions Pathways	2025	2030	2035	2040	2045
BAU Forecast	79,501	84,515	88,764	93,183	97,772
Adjusted Forecast	69,558	68,902	67,403	68,262	69,901
Forecast with CAAP	59,697	47,273	33,147	17,810	1,155

Source: Compiled from the Pinole Climate Action and Adaptation Plan

Figure 4 depicts the 2030 and 2045 GHG emissions targets for Pinole, including anticipated emissions once the measure and actions listed in Table 2 are implemented. Figure 4 also illustrates the forecasted BAU and ABAU emissions, and the target pathway to achieve carbon neutrality by 2045.

Figure 4 Pinole GHG Emissions Projections and Targets

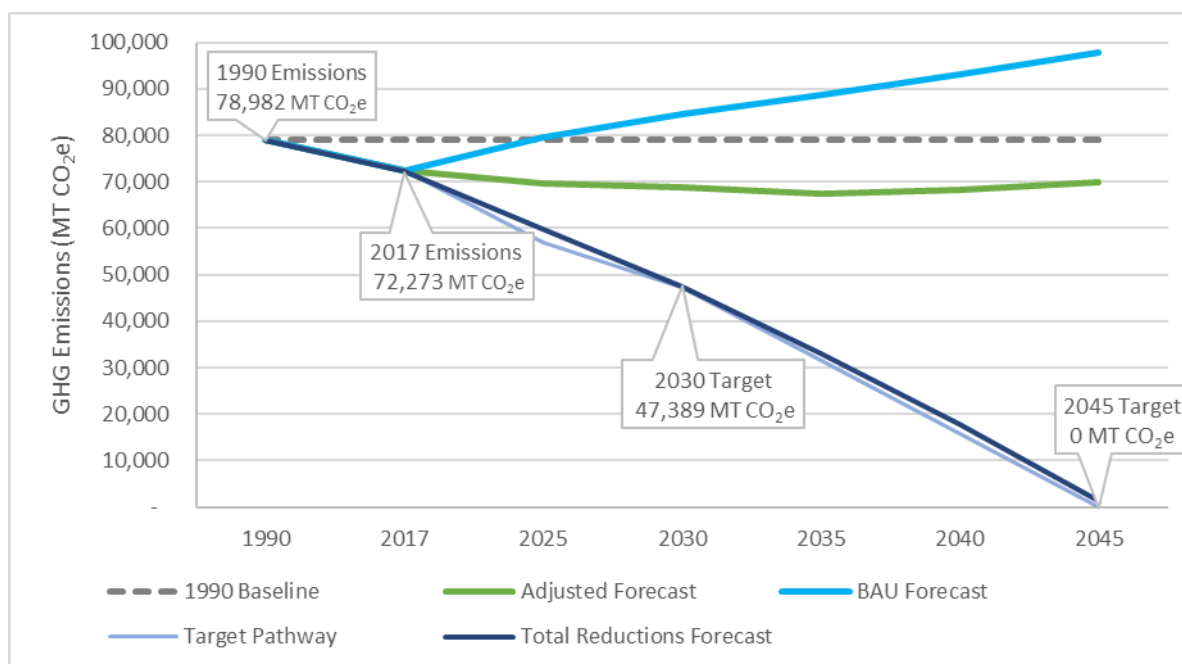


Table 4 shows the Pinole climate action target emissions and the emissions reductions expected from implementing the measures and actions shown in Table 2. Table 4 also shows that Pinole would meet its 2030 GHG reduction target and make substantial progress towards the 2045 goal of carbon neutrality.

Table 4 Targets Versus GHG Reductions

Target/Forecast	2030 GHG Emissions (MT of CO ₂ e)	2045 GHG Emissions (MT of CO ₂ e)
Adjusted Forecast	68,902	69,901
Pinole Targets	47,389	0
GHG Reductions from Full Implementation of CAAP Measures	21,628	68,746
GHG Emissions after Measure Reductions (Adjusted Forecast – GHG Emissions Reductions)	47,273	1,155
Target Anticipated to be Met?	Yes	Substantial progress demonstrated
MT of CO ₂ e = metric tons of carbon dioxide equivalent Source: Compiled from the Pinole Draft CAAP and the GHG Forecast Report		

The CAAP would provide substantial progress toward meeting the City's carbon neutrality goal by 2045. However, full implementation of the Pinole CAAP would leave a gap of approximately 1,155 MT of CO₂e that would still need to be addressed to achieve carbon neutrality. As such, the Pinole CAAP acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for adopting CAAP updates every five years. This allows for certainty in the updated schedule, confirms that the carbon neutrality work is directly tied to the City's financial decision making and prioritization process and allows for constant integration of learning, best practices, and new measures and technologies to further the City toward meeting its goal of carbon neutrality.

Implementation of the Pinole CAAP measures and actions identified in Table 2 could result in physical changes that could potentially have an impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the measures and actions are taken into account in considering potential environmental impacts that could occur through implementation of the CAAP. For example, the use of carbon-free electricity may require the installation of new infrastructure to accommodate use and transmission of alternative and renewable fuels. Similarly, increasing the use of EVs would require the installation of EV charging stations and supporting infrastructure. Additionally, Pinole's CAAP implementation may require the installation of new bicycle or pedestrian facilities. These types of activities would introduce physical changes, such as the temporary presence and operation of construction vehicles and equipment during installation of required facilities, and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and EV charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses may identify required plan- or project-specific mitigation measures where applicable.

Pinole CEQA GHG Emissions Thresholds

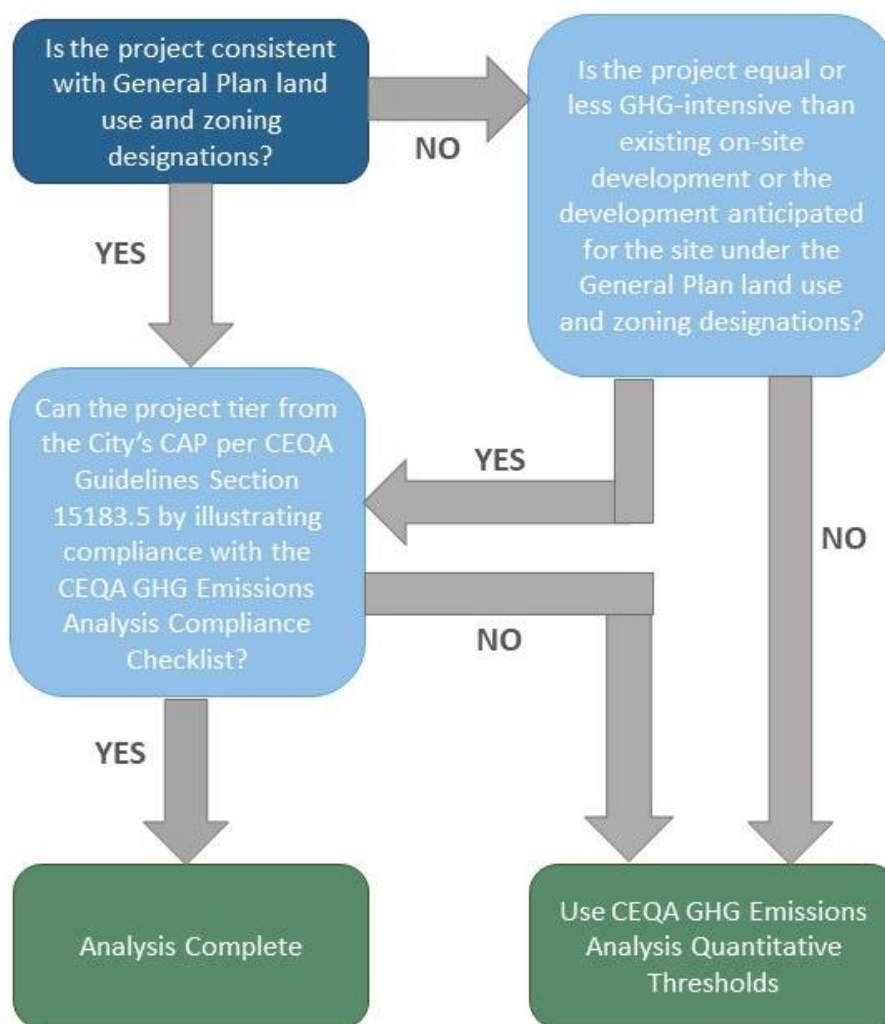
In 2007, SB 97 acknowledged that climate change is an environmental issue that requires analysis in CEQA documents, and in 2010 the California Natural Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines gave lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. Specifically, Section 15183.5(b)(1)A-G of Title 14 of the California Code of Regulations was amended to state that a

qualified GHG Reduction Plan, or a Climate Action Plan, may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation, provided that the GHG Reduction Plan or Climate Action Plan does the following:

- Quantifies GHG emissions both existing and projected over a specific period of time, resulting from activities within a defined geographical area.
- Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.
- Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establishes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.
- Be adopted in a public process following environmental review.

Therefore, the City of Pinole proposes to also adopt quantitative efficiency thresholds for use in evaluating whether a plan or project's GHG emissions would result in a potentially significant environmental impact under CEQA for plans or projects with pre-2030 buildout or initial operation years. The CEQA GHG emissions thresholds would be applied to plans or projects that cannot tier from the environmental analysis for the Pinole Climate Action and Adaptation Plan (as contained in this Initial Study- Negative Declaration [IS-ND]) due to one of the following circumstances, which are illustrated in Figure 5:

- The plan or project would not be consistent with the Pinole General Plan land use and zoning designations for the project site and would result in greater GHG emissions than existing on-site development; or
- The plan or project would not be consistent with the CEQA GHG Emissions Analysis Compliance Checklist.

Figure 5 Determining CEQA GHG Emissions Analysis Methodology

These thresholds are set at the level of GHG emissions that new development would need to achieve to be consistent with the Pinole CAAP's communitywide emissions reduction target of 47,389 MT of CO₂e by 2030. The efficiency thresholds, listed below, are expressed in terms of MT of CO₂e per service person²³ and are applicable to plans or projects with pre-2030 buildout or initial operational years:

- 0.89 MT of CO₂e per resident
- 1.53 MT of CO₂e per employee
- 1.10 MT of CO₂e per service person²⁴

Efficiency thresholds for beyond 2030 would be established later in conjunction with subsequent CAAP amendments.

²³ The service population is equal to the residential population plus half the number of jobs.

²⁴ Pinole, City of. 2023. Draft CEQA GHG Thresholds.

Plans or projects that do not tier from the Pinole CAAP IS-ND that would generate GHG emissions in excess of these thresholds would result in a potentially significant impact on the environment related to GHG emissions and climate change. Mitigation measures would be required to reduce potentially significant impacts resulting from such plans or projects. Plans or projects that are unable to reduce GHG emissions below these thresholds through implementation of identified mitigation measures would result in a significant and unavoidable environmental impact. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have direct construction or operational impacts.

Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Pinole CAAP and CEQA GHG Emissions Thresholds, the cumulative projects scenario is the population, employment, and households' forecasts identified in the supporting documentation for the City, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050. The cumulative projects scenario is shown in Table 6.

Table 5 Cumulative Projects Scenario

Demographic s/ Sector	2017	2025	2030	2035	2040	2045
Population ¹	19,663	27,718	32,110	24,592	26,168	27,845
Employment ²	7,970	8,963	9,645	10,379	11,168	12,018
Households ²	6,901	7,431	7,783	8,151	8,536	8,940
Service Population ³	27,633	36,681	41,755	34,971	37,336	39,863

1. Demographic metrics were calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050.

3 Service population is calculated as the combined total number of employees and residents in the City.

Source: Rincon Consultants, Inc. City of Pinole Greenhouse Gas Emissions Forecasts and Provisional Target Memorandum. Updated January 2024.

Required Approvals

City of Pinole

Required approvals include:

- Adoption of the Pinole CAAP and CEQA GHG Emissions Thresholds IS-ND
- Adoption of the Pinole CAAP
- Adoption of the Pinole CEQA GHG Emissions Thresholds

Although individual plans or projects may be implemented later under the umbrella of the CAAP, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Pinole has sole approval authority over the CAAP as well as the CEQA GHG Emissions Thresholds. There are no other public agencies whose approval is required.

Environmental Factors Potentially Affected

This project²⁵ would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Energy |
| ☐ Geology and Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards and Hazardous Materials |
| ☐ Hydrology and Water Quality | ☐ Land Use and Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population/Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Tribal Cultural Resources |
| ☐ Utilities/Service Systems | ☐ Wildfire | ☐ Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- ☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

²⁵ Note that the CAAP is a plan; however, this language and the significance criteria questions language throughout this IS-ND are taken directly from CEQA Guidelines Appendix G, which refers to a “project” generally but is applicable to either a project or plan.

- ☐ I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Lead Agency Representative Signature

Date

Lead Agency Representative Printed Name

Title

Environmental Checklist

1 Aesthetics				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? | ☐ | ☐ | ☒ | ☐ |
| c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☒ | ☐ |
| d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

- a. *Would the project have a substantial adverse effect on a scenic vista?*
- b. *Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

According to the Pinole General Plan and California Scenic Highway System,²⁶ there are no scenic roadways or highways in the City of Pinole. However, the General Plan notes that the City has several important environmental visual resources, and the Community Character Element discusses built visual (scenic) resources in Pinole.²⁷ As stated in the General Plan Natural Resources and Open

²⁶ California Department of Transportation (CalTrans). <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways> Accessed February 2024

²⁷ Pinole, City of. 2010. General Plan, Introduction. https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf (accessed January 2024)

Space Element, the City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines, and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. As stated further in the Community Character Element, Old Town Pinole, along San Pablo Avenue, contains a variety of architectural styles that mirror the community's historical development and development pattern.

General Plan Goal OS6, which includes Policies OS.6.1, Scenic Resources, and OS.6.2, View Protection, as well as Policy OS.3.14, Open Space Preservation and Management, aim to protect scenic resources that help define and distinguish Pinole as a unique and desirable community and provide linkages between recreational areas and open space. This includes preserving significant knolls, stands of trees, rock outcroppings, and ridgelines within the City through scenic easements, where feasible, and ridgeline preservation measures. Additionally, Policy CC2.2 included in the Community Character Element, aims to preserve natural resources within the built environment, including trees, marshes, creeks, and hillsides. Policy OS.2.1 similarly aims to protect native vegetation, by protecting, preserving, and creating conditions that will promote the preservation of significant trees and other vegetation, particularly native to California and the region.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to scenic vistas and scenic highways. As a policy document, the CAAP would not result in impacts related to scenic vistas and scenic highways. However, implementation of some CAAP measures may promote infrastructure development and other physical changes through policies and programs. CAAP Measure BE-5 would promote installation of small-scale solar PV systems. CAAP Measure TR-1 would improve bicycle and pedestrian facilities throughout the City and Measures TR-4, TR-5, and CIO-2 encourage the installation of EV charging stations and supporting infrastructure. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. CAAP projects would generally be limited to the existing developed areas of the City and would be small-scale in nature. Additionally, expansion of the urban forest could have a positive effect on scenic vistas, adding new tree cover and enhancing existing natural landscapes.

The CAAP would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. Though the implementation of the CAAP may result in future development, CAAP-related projects and actions, including those identified above, would be required to adhere to City development zoning and regulations, including the City's applicable Design Guidelines, which establish criteria for the aesthetic qualities of development in Pinole in order to preserve and enhance the desired character of existing neighborhoods.²⁸ Compliance with the City's Design Guidelines would confirm that potential future infrastructure development and redevelopment related to the CAAP would be carefully integrated with the existing character of Pinole, minimizing potential aesthetic impacts. In addition, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan policies related to scenic resources prior to approval. As such, the CAAP would not result in adverse impacts related to scenic vistas or State scenic highways within the City. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***less-than-significant impacts*** related to scenic vistas and scenic highways.

- c. *Would the project in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are*

²⁸ Pinole, City of. 2018. Design Review. https://www.ci.pinole.ca.us/city_government/planning/design_review (accessed January 2024).

experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Pinole is a primarily urbanized area with the following applicable visual character/quality policies in the Pinole General Plan Land Use and Community Character, Natural Resources, and Community Health and Quality of Life Elements. In 2023, Pinole updated the City's General Plan Housing Element²⁹ pursuant to State law, which requires an update to the Housing Element of the General Plan every eight years. The City is currently drafting an Updated Health and Safety Element and creating a new Environmental Justice Element.

Community Character Element

- **Policy CC.1.1.** All new development and redevelopment shall adhere to the basic principles of high-quality urban design and architecture including, but not limited to, human-scaled design, pedestrian orientation, and interconnectivity of street layout, siting buildings to highlight important intersections, entryways, focal points and landmarks.
- **Policy CC.1.2.** Require all new development to incorporate high-quality site design, architecture and planning to enhance the overall quality of the built environment in Pinole and create a visually interesting and aesthetically pleasing town environment.
- **Policy CC.1.3** To enhance a sense of arrival and create a strong appealing image that promotes community identity, the City shall develop community entry features at key gateways or city entries along Interstate 80. Entryways shall incorporate landscaping, trees, structural architectural elements, signage and public art.
- **Policy CC.1.5** Encourage project compatibility, interdependence and support with neighboring uses, especially between commercial and mixed-use centers and the surrounding residential neighborhoods. Uses should relate to one another with pedestrian connections, transit options, shared parking, landscaping, public spaces, and the orientation and design of buildings
- **Policy CC.2.1** Provide visual and physical connections between the natural environment and the built environment through careful site design, building placement, architectural features that allow views of Pinole's unique environment such as ridgelines or the San Pablo Bay shoreline, public access to open space such as via the Bay Trail, and the use of native vegetation in the urban environment such as for landscape buffers for sidewalk areas and street trees.

Land Use and Economic Development Element

- **Policy LU.1.3** Establish and implement a continuing program of civic beautification, gateway or entryway enhancement, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment and attractive neighborhood areas.
- **Policy LU.3.3** Require design review of commercial and industrial projects to ensure compatibility with adjacent or nearby land uses, including intensity, access, internal circulation, visual characteristics, noise, odors, fire hazards, vibrations, smoke, discharge of wastes and nighttime lighting.
- **Policy LU.5.1** Designate any undeveloped ridgelines and hillsides as Low Density Residential, Rural, or Open Space.

²⁹ Pinole, City of. General Plan Housing Element 2023-2031. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/Housing%20Element/2023-2031%20Housing%20Element%20-%20Certified.pdf (accessed January 2024)

- POLICY LU.6.3 Provide waterfront parks, pedestrian pathways and recreation areas that are safe, accessible, and attractive for public use.

Natural Resources and Open Space Element

- **Policy OS.1.3** Hillsides, Ridgelines, and View Corridors. Retain and protect sensitive hillside and ridgeline habitat, tree groves, and view corridors as shown on Figure 10.4.
- **Policy OS.2.4** Riparian Areas and Creek Setbacks. Lands adjacent to riparian areas shall be protected as public or private permanent open space through dedication or easements. Riparian vegetation outside the setback should also be protected. Riparian areas within the City include but are not limited to: (1) Pinole Creek (2) Catty Creek (3) Duncan Canyon/Cole Creek; (4) Shady Draw; (5) Faria Creek and (6) Roble Creek and shall be protected from further degradation and enhanced during review of adjacent proposed development.
- **Policy OS.3.3** Cluster Development. Encourage cluster development and other creative site planning techniques to preserve open space, trails and visual, habitat, recreation and archaeological resources.
- **Policy OS.3.5** Buffers for Sensitive Resources. When activities close to open space resources within or outside the urban area could harm these resources, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values.
- **Policy OS.3.6** Minimize Environmental Impacts. Encourage development patterns which minimize impacts on the City's biological, visual, and cultural resources, and integrate development with open space areas.
- **Policy OS.3.7** Preserve Natural Features. Retain sensitive habitat areas in their natural state, where possible, and protect from inappropriate development and landscaping. New development shall incorporate natural features present on the site such as a creek, steep topography or natural vegetation, where feasible, unless appropriate mitigation measures can be incorporated.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to aesthetics. The CAAP would promote sustainable infrastructure development and redevelopment through policies and programs. Implementation of some CAAP measures related to renewable energy, transportation, GHG sequestration, and extreme heat may result in physical changes that could impact scenic resources. Specifically, CAAP Measure BE-5 would promote installation of local community-scale solar photovoltaic (PV) systems at existing municipal facilities and in new or majorly renovated multi-family and commercial developments. Likewise, implementation of Measure BE-5 would also include installation of a co-located community solar and storage facility to benefit affordable housing sites. Measure TR-1 would improve bicycle and pedestrian facilities throughout the City by creating a safe and connected active transportation network linked to Pinole Creek, and Measures TR-4, TR-5, and CIO-2 support the

installation of EV charging stations and supporting infrastructure. CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.

Implementation of small-scale solar panels, introduction of EV charging infrastructure, expanding Pinole's urban forest, and installing green/cool roofs and cool pavement may slightly change the scenic character. However, future CAAP-related projects would be located and designed to be complimentary to existing land uses and would be required to adhere to the City development zoning and regulations that seek to preserve the character of Pinole and minimize environmental impacts. In addition, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan policies highlighted above and other applicable regulatory policies, such as the Zoning Ordinance and applicable Specific Plans and design guidelines, prior to approval. Therefore, the CAAP and CEQA GHG Emissions Thresholds would not conflict with applicable zoning and other regulations governing scenic quality and would result in a ***less-than-significant impact***.

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to light and glare. The CAAP would promote sustainable infrastructure development and redevelopment that is complimentary to existing land uses in the City. As a policy document, the CAAP would not directly result in impacts related to light and glare. However, implementation of CAAP Measure BE-5 encourages the installation of solar panels and battery storage systems at new or majorly renovated multi-family and commercial buildings. Solar panels have the potential to result in new sources of glare within Pinole if not thoughtfully designed and located. The design and location of proposed solar infrastructure would be complimentary to existing development in Pinole, such as the addition of small-scale rooftop solar panels, to reduce potential glare impacts within the City. Furthermore, CAAP projects would be reviewed for consistency with the CCR Title 24 lighting standards (CCR Title 24 Part 6), the City's Municipal Code (Chapter 17, Article 46 Lighting), applicable Specific Plans (e.g., the Three Corridors Specific Plan), and design guidelines, which includes a review of exterior lighting.^{30,31} In addition, CAAP projects or actions would be reviewed for consistency with the Pinole General Plan and other applicable regulatory land use actions prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by complying with standard conditions of approval requiring the shielding of exterior lighting and limiting spillover lighting. Thus, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to light and glare.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). Cumulative impacts related to scenic resources, visual character, and increased light and glare

³⁰ California Energy Commission (CEC). 2022. 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf (accessed January 2024).

³¹ Pinole, City of. Municipal Code. https://codelibrary.amlegal.com/codes/pinole/latest/pinole_ca/0-0-0-10163 (accessed January 2024).

would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to Pinole General Plan policies, the municipal code, and applicable Specific Plans and design guidelines. As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Because of the developed nature of Pinole, future infrastructure projects under the CAAP, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not adversely impact the visual character of the community. In addition, future development in the City would be required to comply with the City's Design Review process and be reviewed against applicable Pinole General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to aesthetics.

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- e.1. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

Pinole is characterized primarily by suburban development. The California Farmland Mapping and Monitoring Program classifies Pinole as Urban and Built-Up Land, Grazing Land, and Other Land. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in Pinole.³²

³² California Department of Conservation. 2022. California Important Farmland Finder. <https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed January 2024).

Likewise, there are no parcels of non-Prime Farmland in Pinole that are enrolled in Williamson Act contracts.³³

The CAAP measures focus on building electrification, active transportation, zero emission vehicles, public transit, water conservation, solid waste diversion, urban greenspace and trees, as well as community adaptation and resilience, flood control, sea level rise, extreme heat, and wildfire. CAAP measures would not involve projects or policies that would result in impacts related to conversion or loss of Farmland. Additionally, the CEQA GHG Emissions Thresholds do not propose development or changes to land use and zoning that could result in the loss of farmland or conflict with existing agricultural zoning. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or Pinole General Plan land use designations.

- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e.2. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

Pinole contains several open space and preserved areas that include the Pinole Creek and Watershed, the shoreline along San Pablo Bay, ridgelines around Pinole, and the addition of a portion of the Bay Trail in Pinole.³⁴ Additionally, while Pinole contains riparian forests, it does not contain areas designated for forest land or Timberland Production. The Pinole Municipal Code Chapter includes a variety of sections that establish policies, regulations, and standards to protect trees within the City, including the Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, b, and e1, as well as Policy SE.7.2, which aims to support the expansion of tree planting and landscape practices that encourage the use of trees, plants, and vegetation. The CAAP aligns with the Pinole General Plan by including measures and actions such as CAAP Measure CS-1, which establishes a goal to increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. As such, the CAAP would increase the planting of trees within the City and be consistent with the City's regulations. The CAAP does not include actions that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Likewise, the CEQA GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of forestland or conflict with existing zoning for forest uses. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to degradation of forestry

³³ California Department of Conservation. 2022. California Williamson Act Enrollment Finder. <https://gis.conservacion.ca.gov/portal/home/webmap/viewer.html?webmap=18f7488c0a9d4d299f5e9c33b312f312> (accessed December 2023).

³⁴ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or General Plan land use designations.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. As the City's population, employment, and housing grows and development intensifies in the future, CAAP Measure CS-1 would increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. As discussed above, the CAAP would not include any measures or actions that would significantly impact agricultural or forest resources. In addition, the CAAP would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Therefore, implementation of CAAP would result in ***no cumulative impact*** related to agricultural and forestry resources.

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the United States Environmental Protection Agency (U.S. EPA) at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Pinole is located within the San Francisco Bay Area Air Basin (the Air Basin), which includes the nine Bay Area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma. The Air Basin is under the jurisdiction of BAAQMD. As the local air quality management agency, BAAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Air Basin is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. BAAQMD is in non-attainment for the State and federal ozone standards, the State and federal PM_{2.5} (particulate matter up to 2.5 microns in size) standards, and the State PM₁₀ (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.³⁵ The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

³⁵ Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status> (accessed December 2023).

The Bay Area 2017 Clean Air Plan provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the Clean Air Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with State air quality planning requirements as codified in the California Health and Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour State ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, State law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins.³⁶

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.³⁷ The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The CAAP would not involve land use or zoning changes but would rather promote sustainable infrastructure development and redevelopment. Likewise, the CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. CAAP measures and actions focus on electrification of buildings and sustainable development, increasing local renewable energy infrastructure, improving active transportation, zero emission vehicle and public transit infrastructure, and increasing urban trees. Implementation of CAAP measures, such as those aimed at reducing VMT, electrifying vehicles, and reducing natural gas use through building electrification, would have co-benefits to air quality within the Air Basin. These measures would help BAAQMD meet applicable air quality plan goals and would generally reduce air pollutant concentrations. Although the purpose and intended effect of the CAAP is to reduce GHG emissions generated in Pinole to help reduce the effects of climate change, many of its measures would also reduce criteria pollutant emissions. CAAP Measures BE-1, BE-2, and BE-3 involve increased energy efficiency and building electrification as part of residential, non-residential, and municipal land uses. In addition, CAAP Measures TR-1, TR-2, and TR-3 seek to reduce VMT in the City by improving active transportation and public transit facilities, while Measures TR-4, TR-5, and T-6 would encourage the adoption of zero emission vehicles (ZEV) and low-emissions off-road vehicles and equipment by enhancing EV infrastructure. These energy- and transportation-related measures would reduce air pollutant emissions as well as GHG emissions. Therefore, the CAAP and CEQA GHG Emissions Thresholds would be consistent with the 2017 Clean Air Plan and would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

³⁶ BAAQMD. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. <https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans> (accessed December 2023).

³⁷ California Air Resources Board (CARB). 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed December 2023).

- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to an increase of criteria pollutants. Likewise, the CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAAP would not result in impacts related to criteria pollutants. However, implementation of the following CAAP measures may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAAP Measures BE-2 and BE-2 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures TR-4, TR-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits for existing buildings and landscaped areas. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of CAAP actions would not include large-scale construction within Pinole and would involve temporary and short-term criteria pollutant emissions. As such, the CAAP would result in low-level criteria pollutant emissions and negligible impacts to air quality. Through the standard review process for new development or Capital Improvement projects, CAAP projects or actions would also be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations. Thus, the construction associated with implementation of the CAAP would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many of the CAAP actions would have the secondary benefit of reducing criteria pollutant emissions, such as measures that would increase building energy efficiency, promote EVs, reduce on-road and off-road fuel use, and reduce VMT. Implementation of the CAAP would be beneficial by helping Pinole meet applicable air quality plan goals. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to criteria pollutant emissions.

- c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations. Implementation of the CAAP measures, as described under *Response 3b*, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of CAAP measures and actions would not include large-scale construction, and construction-related

emissions would be temporary. As such, implementation of the CAAP could result in low-level toxic air contaminant emissions associated with construction.

While the CAAP could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAAP projects or actions would be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations through the standard development review process once project details and locations are known to confirm compliance. Thus, construction associated with implementation of the CAAP are not expected to result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAAP measures and actions. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have a **less-than-significant impact** related to exposure of sensitive receptors to toxic air contaminants.

d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.³⁸ The CEQA GHG Emissions Thresholds would provide guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to odors. The CAAP includes Measure SW-5 that seeks to establish new programs to meet the City's SB 1383 annual procurement target by increasing the application of compost on appropriate lands, such as natural areas and parks. As such, the CAAP could result in minor odors related to compost application. However, the location of future compost application would be selected to be complimentary to existing development in the City and would be reviewed for site specific potential odor impacts to ensure that projects implemented in accordance with the CAAP would not adversely affect a substantial number of people. Therefore, the CAAP would not facilitate development that could create adverse odors, and there would be **less-than-significant impacts** related to odors exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could result in air pollutant emissions that exceed applicable BAAQMD thresholds or be inconsistent with the 2017 Clean Air Plan. However, implementation of the CAAP and CEQA GHG Emissions Thresholds would have a less-than-significant contribution related to potential cumulative air quality impacts within the Air Basin and on sensitive receptors within Pinole, given that the CAAP and CEQA GHG Emissions Thresholds would result in community-wide reduction of GHG emissions, energy use, single-

³⁸ California Air Resources Control Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf> (accessed December 2023).

occupancy vehicle travel, and associated air pollutant emissions. As such, implementation of the CAAP and CEQA GHG Emissions Thresholds would not result in adverse impacts related to contribution of criteria pollutants to the Air Basin and exposure of sensitive receptors to toxic air contaminants and could result in co-benefits to air quality within the Air Basin for the reasons outlined in *Response 3a*, above. Therefore, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to air quality.

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Pinole is a primarily urbanized community with parks, recreational, and open spaces incorporated throughout the City. However, the ridgelines in Pinole and the San Pablo Bay area adjacent to the Pinole shoreline contain grasslands, saline emergent wetlands, coastal oak woodlands, coastal scrub, estuarine (tidal flats), open water, perennial creeks, and riparian forests which could provide habitat for special-status species.³⁹ In addition, migratory and nesting birds protected by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGF) and the Migratory Bird Treaty Act (MBTA) may utilize trees, landscaping, and structures throughout Pinole for nesting habitat. The General Plan Natural Resources and Open Space Element incorporates policies to protect biological resources, such as plants, trees, wildlife habitats, shoreline, and the species that utilize these habitats.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to special status species and their habitats. The CAAP would not involve land use or zoning changes and would instead promote sustainable infrastructure development and redevelopment. The CAAP measures would not conflict with the policies of the Pinole General Plan related to wildlife but would rather be consistent with and promote those policies. CAAP measures and actions would generally apply to the urbanized areas of the City, with little application to parks, open space areas, or the undeveloped portions of the City where sensitive habitat and related species may be present. In addition, CAAP Measure CS-1 facilitates the increase of carbon sequestration and preparation of the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. Likewise, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. Development of new or enhanced existing natural areas throughout Pinole could serve as additional habitat for special status species and migratory and nesting birds. As such, the CAAP would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification.

As a policy document, the CAAP would not directly result in impacts related to wildlife species of special status. However, implementation of some CAAP actions may promote infrastructure development within the urbanized portions of the City and could result in impacts to species through construction activities. CAAP Measures BE-2 and BE-3 would promote electrification of existing buildings; Measure TR-1 would improve bicycle and pedestrian facilities throughout the City; and Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. These actions have the potential to disturb nesting habitat for birds and raptors protected under Sections 3503, 3503.5, and 3513 of the CFGF and under the MBTA. However, construction activities for future CAAP projects would be required to comply with the provisions of the MBTA and CFGF Sections 3503, 3503.5, and 3513 to avoid impacts to protected

³⁹ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

birds and would be reviewed for consistency with City, State, and federal policies related to protected species. As such, the CAAP and CEQA GHG Emissions Thresholds would not have a substantial adverse effect on special-status wildlife species. Therefore, the CAAP would result in a **less-than-significant impact** related to special-status wildlife species.

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

As stated in *Response 4a*, Pinole contains wetlands and riparian habitat. Figure 1.1 in the City's General Plan details the habitat throughout Pinole, which includes the following breakdown of land types:⁴⁰

- Annual Grassland – 719 acres
- Saline Emergent Wetlands (e.g., Salt Marsh) 10 acres
- Coastal Oak Woodland – 499 acres
- Coastal Scrub – 10 acres
- Estuarine (e.g., Tidal Flats) – 58 acres
- Open Water – 4,097 acres
- Perennial Creek – 32 acres
- Riparian Forest – 41 acres
- Urban – 1,965 acres

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to riparian, wetland, or other sensitive habitats. The CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. The CAAP measures would generally apply to the urbanized areas of the City, with little application to parks, open space areas, or other locations where riparian and wetland habitat is located. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole, while Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. The Pinole Municipal Code Chapter includes a variety of sections that establish policies, regulations, and standards to protect trees within the City, including the Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, as well as Policy SE.7.2, which aims to support the expansion of tree planting and landscape practices that encourage the use of trees, plants, and vegetation. Future CAAP-related projects would be required to adhere to City development regulations, Pinole General Plan policies, and the PMC. In addition, the location, and details of

⁴⁰ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

future CAAP projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAAP would not have a substantial adverse effect on riparian habitat or a sensitive natural community, such as wetlands. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have a **less-than-significant impact** related to sensitive natural plant communities.

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to interference with species movement or wildlife nurseries. The CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized portions of the City. As a policy document, the CAAP would not result in direct impacts related to interference with species movement or use of wildlife nursery sites. Future CAAP projects would be required to adhere to City development regulations, the Pinole General Plan, and the PMC, including Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, b, and c. In addition, Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. Furthermore, the CAAP actions would generally apply to the urbanized areas of Pinole with little application to parks, open spaces, or other locations where wildlife corridors or native wildlife nursery sites may be present. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to interference with species movement or wildlife nursery use.

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

As mentioned above, Pinole is a primarily urbanized community with parks, recreational, and open spaces incorporated throughout the City. The General Plan Natural Resources and Open Space Element incorporates policies to protect biological resources, such as plants, trees, wildlife habitats, shoreline, and the species that utilize these habitats. In addition, the PMC includes local policies and ordinances to protect trees. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The CAAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment within the urbanized portion of the City. The purpose and intended effect of the CAAP is to reduce GHG emissions generated in the City to help reduce the effects of climate change and increase the City's ability to adapt to the changing climate. Implementation of proposed CAAP actions would be beneficial by helping Pinole meet applicable local policies and ordinances for protecting biological resources, including the PMC Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. Specifically, CAAP Measure CS-1 provides for the planting of new and maintenance of existing trees. As such, the CAAP would not conflict with or

obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to consistency with local biological resources protection policies.

- f. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

No portion of Pinole is currently subject to a Habitat Conservation Plan or Natural Community Conservation Plan.⁴¹ Therefore, the CAAP and CEQA GHG Emissions Thresholds would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could result in impacts to biological resources during infrastructure and building construction. However, as described in *Responses 4a* through *4f*, above, infrastructure development or redevelopment resulting from implementation of the CAAP would be required to comply with applicable Pinole General Plan policies and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAAP would not result in new building construction and contains actions that prioritize the preservation of trees and improvements to existing habitat. Therefore, implementation of the CAAP would result in a **less-than-significant cumulative impact** related to biological resources.

⁴¹ California Department of Fish and Wildlife (CDFW). 2019. Natural Community Conservation Plans. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline> (accessed January 2024).

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The Pinole General Plan Community Character Element notes that Pinole has a variety of cultural and historic resources, including Native American sites, historic period sites and buildings, artifacts, and memorabilia, associated with locally historic events. While only a few sites and buildings in the City meet the criteria for designation as a State Historic Resource or a State Historic Landmark, many others have historic value to the community. These structures include the Bank of Pinole, Bernardo Fernandez House, the Downer Home, and Pinole Waterfront at the base of Tennent Avenue. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to historical resources. The CAAP would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. CAAP projects would be required to comply with Pinole General Plan Community Character and Land Use and Economic Development Element goals and policies related to the preservation of historic resources, including Goal CC.1 which aims to maintain Pinole's unique qualities and sense of place to preserve the established historic and small-town character of the City as well as Goal LU.3, which aims to preserve historic resources and ensure high-quality site planning and design. CAAP projects would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the Pinole General Plan Community Character and Land Use and Economic Development Elements to avoid adverse impacts related to historic resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to historical resources.

- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to archaeological resources. There is a possibility for archaeological sites not previously recorded to be present in areas where CAAP projects could occur. CAAP Measures BE-5, TR-1, TR-4, TR-5, EH-1, and CIO-2 would result in small-scale construction that may expose previously undiscovered archaeological resources during ground disturbing activities. The CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAAP projects and actions would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction. As such, archeological resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to archaeological resources.

- c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have impacts related to human remains. There is a possibility of encountering unknown buried human remains throughout the City where future CAAP projects could occur. CAAP Measures BE-5, TR-1, TR-4, TR-5, EH-1, and CIO-2 would result in small-scale construction that may expose unknown human burial sites during ground disturbing activities. CAAP projects and actions would be required to comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 regulations related to burial findings, including notification, assessment, and treatment of burial sites. Therefore, the CAAP would result in a ***less-than-significant impact*** related to human remains.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would include infrastructure that could have an impact on cultural resources during construction. Additionally, there is a possibility of encountering buried archaeological deposits and human remains throughout the City. Impacts to historic and archaeological resources and human remains are generally site-specific. Accordingly, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. In addition, future projects in the City, including those associated with implementation of the CAAP, would be required to comply with the City's policies and programs that require the identification and protection of sites and structures of architectural, historical, archaeological, and cultural significance in order to avoid impacts related to cultural resources. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to cultural resources.

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate.⁴² California consumed 287,826 gigawatt-hours (GWh) of electricity in 2022 and 11,710 million therms of natural gas in 2022.^{43,44} The single largest end-use sector for energy consumption in California is transportation (41.2 percent), followed by industrial (23.6 percent), residential (18.2 percent) and commercial (17.1 percent).⁴⁵ The City of Pinole has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the **Error! Reference source not found.** section above. The City completed a communitywide GHG emissions inventory for 2017, which is summarized in **Error! Reference source not found.** Transportation (specifically passenger on-road and commercial on-road) and building energy use (specifically residential and commercial/industrial natural gas use) were responsible for the most GHG emissions within Pinole in 2017. Residential, non-residential, and other electricity use in Pinole totaled 83,718,338 kWh in 2017. Residential and non-residential natural gas use in Pinole totaled 3,670,203 therms in 2017.⁴⁶ Passenger and commercial vehicles in Pinole accounted for 59,505,776 VMT in 2017. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to wasteful consumption of energy resources. The CAAP is a policy

⁴² United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

⁴³ California Energy Commission (CEC). 2023. Electricity Consumption by County. <http://www.ecdms.energy.ca.gov/elecbycounty.aspx> (accessed December 2023).

⁴⁴ California Energy Commission (CEC). 2023. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx> (accessed December 2023).

⁴⁵ United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

⁴⁶ Pinole, City of. 2024. Draft Climate Action Plan Appendix C.

document containing climate action measures to reduce communitywide GHG emissions. The CAAP would encourage energy efficiency in the City's existing building stock through new policies and educational campaigns as well as new requirements for proposed new and existing buildings through CAAP Measures BE-1, BE-2, and BE-3. The CAAP would also promote increased renewable energy production within the City through Measure BE-5. Additionally, the CAAP attempts to reduce transportation-related energy consumption by increasing active transportation and public transit use and reducing VMT through Measures TR-1, TR-2, and TR-3.

Implementation of some CAAP measures would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of CCR Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as the 2022 CALGreen, future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAAP-related projects. Upon completion of construction for any CAAP-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT and energy use within the City.

The purpose and intended effect of the CAAP is to reduce GHG emissions generated within Pinole to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAAP would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to the wasteful, inefficient, or unnecessary consumption of energy.

b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include SB 1020, the 2022 CALGreen (Title 24 Part 11), and the 2022 California Building Energy Efficiency Standards (Title 24 Part 6). SB 1020 supports the reduction of GHG emissions from the electricity sector by accelerating the State's RPS Program and requires electricity providers to increase procurement from eligible renewable energy resources to 90 percent of total retail sales by 2035, 95 percent by 2040, and 100 percent by 2045. CALGreen (Title 24 Part 11) institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, the California Building Energy Efficiency Standards (Title 24 Part 6) establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. CCR Title 24 (Parts 6 and 11) is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Pinole is part of the Marin Clean Energy (MCE) community choice aggregate, which provides electricity primarily from clean, renewable sources. Pinole would continue to reduce its use of

nonrenewable energy resources as the electricity generated by renewable resources provided by MCE continues to increase to comply with State requirements through SB 1020. The CAAP includes measures and actions to reduce electricity use and increase production of renewable energy, as discussed further below, and would, therefore, align with the overall intent of SB 1020.

In addition, construction and operation associated with infrastructure projects stemming from the CAAP would be designed to comply with the energy source standards of the CALGreen and the California Building Energy Efficiency Standards. Future CAAP projects would be required to demonstrate compliance with the CALGreen and the California Building Energy Efficiency by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in conflicts with renewable energy plans. As discussed under *Response 6a*, above, Measures BE-1, BE-2, and BE-3 seek to decrease natural gas and energy consumption in new and existing buildings by requiring electrification, while Measure BE-5 encourages the production and use of local renewable energy. These actions are consistent with the goals and policies established by SB 1020, CALGreen, and the California Building Energy Efficiency Standards. Thus, the CAAP and CEQA GHG Emissions Thresholds would not conflict with adopted renewable energy or energy conservation plans and there would be ***no impact***.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of the CAAP would result in reduced use of non-renewable energy resources across the community, in particular, with requirements for retrofitted and new buildings and new infrastructure. Implementation of the CAAP would also increase the production of renewable energy within the City by incentivizing the inclusion of small-scale solar projects in new or majorly renovated multi-family and commercial developments and on existing municipal facilities. Additionally, the CAAP includes measures to increase the use of active transportation (TR-1) and public transit (TR-2) and reduce VMT within the City, which would reduce transportation fuel use. As the City's population grows and development intensifies in the future, actions contained within the CAAP would ensure that planned new development is constructed to strict energy efficiency standards and that VMT is reduced. As the CAAP would result in decreased non-renewable energy use within the City and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAAP would result in ***no cumulative impact*** related to energy.

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
Strong seismic ground shaking?	☐	☐	☐	☒
Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

- a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
 - ii. *Strong seismic ground shaking?*
 - iii. *Seismic-related ground failure, including liquefaction?*
 - iv. *Landslides?*

As outlined in the General Plan, Pinole is located approximately 1.5–3.9 miles northeast of the Hayward fault and the Rodgers Creek/Healdsburg fault zone underneath San Pablo Bay and is also located about 18 to 20 miles northeast of the San Andreas fault zone. The Green Valley-Concord fault trend is located approximately 12 miles east of Pinole. Given its proximity to Pinole, the Hayward fault poses the greatest seismic threat to the City. Ground movement, soil liquefaction, and landslides in susceptible areas can be expected to result in damage during a seismic event. The City's 1995 General Plan identifies the primary geologic and geotechnical concerns in Pinole as slope stability, earthquake ground shaking, and fault ground rupture. Although Pinole is at risk of earthquake-induced ground shaking and associated hazards, the CAAP is a policy document containing measures and supporting actions to reduce GHG emissions. The CAAP does not propose habitable development or policies that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Likewise, the CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to seismic- and landslide-related hazards.

- b. *Would the project result in substantial soil erosion or the loss of topsoil?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to substantial loss of topsoil. The CAAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment. As a policy document, the CAAP would not directly require ground-disturbing activities. However, implementation of several CAAP measures, such as CAAP Measures BE-5, TR-1, TR-2, TR-4, TR-5, CIO-2, EH-1, and CS-1 may result in small-scale construction activities that could cause soil erosion or the loss of topsoil during construction.

CAAP projects and actions would be reviewed for consistency with Pinole General Plan and PMC and other local and State erosion and grading regulations prior to final siting and construction. The potential for CAAP project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized through compliance with PMC Chapter 15, Article 36, which includes erosion and sediment control standards, and/or the National Pollutant Discharge Elimination System (NPDES) Construction General Permit provided by the Regional Water Quality Control Board. These regulations require

best management practices (BMPs) such as the covering of graded slopes and stockpiled materials, storm drain protection, and use of fiber rolls and silt fences to reduce erosion and topsoil loss from stormwater runoff. Compliance with these regulations would ensure that BMPs are implemented during construction and that soil erosion and the loss of topsoil are minimized. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to soil erosion and loss of topsoil.

- c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*
- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Figure 9.1 in the Health and Safety Element of the General Plan shows the liquefaction susceptibility, which includes a very high, moderate, and low ranking. The figure also shows landslide distributions in the City. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project location on an unstable geologic unit or soil. The CAAP is a policy document containing programs that are consistent with the Pinole General Plan. Some of the proposed policies in the CAAP would support small-scale construction projects, such as EV charging stations. However, CAAP projects and actions would be reviewed for consistency with local and state geotechnical regulations prior to final siting and construction. New structures would be required to comply with the CBC, including measures to address unstable soil conditions. Therefore, the CAAP would result in a **less-than-significant impact** related to risks associated with location on unstable geologic unit or soil or on expansive soils.

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAAP and CEQA GHG Emissions Thresholds would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to paleontological resources. The CAAP would not involve land use or zoning changes that would encourage new development but would instead promote sustainable development and redevelopment. As a policy document, the CAAP would not directly result in impacts related to paleontological resources or unique geologic features. CAAP policies that would involve construction activities, such as the policies related to building energy-efficiency, renewable energy production, and EV charging infrastructure, would involve work within existing, previously graded, and disturbed areas where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. Nonetheless, there is a possibility that these small-scale construction projects may expose

paleontological resources during ground disturbing activities. To reduce such risks, CAAP projects and actions would be reviewed for consistency with geotechnical and paleontological regulations prior to final siting and construction. In addition, the CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to paleontological resources and unique geologic features.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could expose additional people and property to the seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAAP, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including CBC requirements, City-issued permit requirements, and the General Plan, would minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards and paleontological resources impacts would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to geology and soils.

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	☐	☐	☐	☒

- a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the sun hits Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth because it warms the planet by approximately 60 degrees Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth's temperature. Global warming is the observed increase in the average temperature of the Earth's surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorinated compound, and sulfur hexafluoride.⁴⁷ Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent

⁴⁷ The CAAP only considers emissions of CO₂, CH₄, and N₂O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the CAP.

forest fires, and more frequent and severe drought years.⁴⁸ Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:⁴⁹

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.

Pinole has completed a communitywide GHG emissions inventory for 2017, which is summarized in **Error! Reference source not found..** The combined energy sector (natural gas and electricity) was the second largest contributor to Pinole's GHG emissions, following the transportation (on- and off-road) sector. Figure 4 summarizes the communitywide GHG emissions forecast under three scenarios: 1) BAU, 2) BAU projections with state measures, and 3) the City of Pinole target reduction path along with State measures. Pinole is committed to an emissions reduction target of 40 percent below 1990 levels by 2030 (SB 32 target year) and reaching carbon neutrality by 2045 (AB 1279 target year). This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and CEQA Guidelines § 15183.5 for a qualified GHG emissions reduction strategy as well as to be achievable by City-supported measures identified in the CAAP. The CAAP includes a BAU and adjusted forecast of GHG emissions that will enable the City to estimate the amount of emissions reductions needed to meet its goal. The measures included in the CAAP combined with statewide legislation and initiatives and regional transportation programs will enable the City to meet its emissions reduction by 2030 (SB 32 target year). Table 4 shows the contribution of the statewide initiatives along with the measures and actions. The City needs to achieve a target of 47,389 MT CO₂e of GHG emissions by 2030 to meet its goal. The estimated GHG reductions accounted for in the CAAP would total 21,628 MT CO₂e by 2030, which would bring the total emissions to 47,273 MT CO₂e.

The CAAP includes measures intended to reduce communitywide GHG emissions. Implementation of the CAAP would result in the reduction of communitywide and per capita operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as EV charging stations and building energy and water efficiency upgrades. Additionally, the CAAP would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in construction or operational impacts related to GHG emissions. The CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAAP that are enforced during CEQA review with the intention of

⁴⁸ CARB and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf> (accessed December 2023).

⁴⁹ California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. <http://www.climateassessment.ca.gov/state/> (accessed December 2023).

reducing GHG emissions associated with construction and operation of future projects and plans in Pinole. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to generation of GHG emissions.

- b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The CARB 2022 Climate Change Scoping Plan outlines a pathway to achieving the 2045 goal codified by AB 1279. The CAAP and CEQA GHG Emissions Thresholds are policy-level documents that establish measures and actions to reduce GHG emissions within Pinole to comply with State regulations. As discussed under *Response 8a* above, the CAAP includes measures that would reduce GHG emissions from forecasted BAU levels to approximately 0.89 MT of CO₂e per resident, 1.53 MT of CO₂e per employee, and 1.10 MT of CO₂e per service person by 2030. The purpose of the CAAP is to meet Pinole's proportionate fair share of the statewide GHG emissions reduction target set by SB 32 and work toward the state's longer-term target of carbon neutrality identified by the 2022 Scoping Plan and codified by AB 1279.

The CAAP would not conflict with any applicable GHG reduction plans, including the CARB 2022 Climate Change Scoping Plan. The CAAP identifies how Pinole would achieve consistency with the statewide GHG emissions reduction goals. The CAAP would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability initiatives. These benefits include reduction in building energy consumption, VMT (and thus air pollution), and solid waste generation. Likewise, the CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the CAAP and would be enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***no impact*** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth and that exceed the proposed CEQA GHG Emissions Thresholds would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAAP creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for Pinole. The CAAP also includes a series of actions that are intended to reduce per capita GHG emissions by 40 percent below 1990 levels) by 2030, which provides substantial progress toward Pinole meeting State goals. The City's GHG targets were developed relative to the 2017 Community GHG emissions by back-casting to 1990. This back-cast utilized the change in statewide GHG emissions between 2017 and 1990 as a proxy for change in Pinole during the same period. As such, the CAAP would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during future construction of CAAP-related infrastructure projects; however, these emissions would be

temporary and minor in nature. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to GHG emissions.

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to hazardous materials. The CAAP is a policy document containing measures and actions to reduce GHG emissions. The CAAP does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the CAAP actions, such as energy and water efficiency retrofits and installation of EV charging stations, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control, the U.S. EPA, and the Occupational Safety & Health Administration. In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of projects would comply with all local, State, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the CCR. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAAP actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAAP actions would not involve the routine transport, use, or disposal of hazardous materials during operation.

CAAP Measure BE-5 emphasizes increasing local renewable energy production and storage within the City by encouraging new and majorly renovated multi-family and commercial developments to include small-scale solar systems and battery storage in their design. Lithium-ion batteries, the typical battery technology used in battery storage systems, may pose a risk of upset and accidental release of hazardous chemicals contained within the batteries (e.g., in the event of a fire). Lithium-ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with renewable energy systems. Any future proposed renewable energy systems would, therefore, be carefully reviewed for appropriate locations, safety measures, and consistency with the Pinole General Plan, PMC, and applicable local, State, and federal regulations. Thus, establishment of such production and storage facilities would be subject to site specific review and approval by the Pinole Fire Department, Hazardous Materials Division, and Building Division and would be required to comply with all applicable safety standards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to handling hazardous materials in the vicinity of schools. The CAAP is a policy document containing measures to reduce GHG emissions. The CAAP does not include site-specific proposals and development. Implementing some CAAP actions may require future development or improvements, such as EV charging stations and building improvements related to energy efficiency. However, CAAP projects and actions would be reviewed to establish the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the Pinole General Plan, PMC, and applicable local, State, and federal regulations. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to handling of hazardous materials in proximity to schools.

- d. *Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project site location on a site included on a hazardous material site list. The CAAP is a policy document containing measures and supporting actions to reduce GHG emissions and increase community resilience. The CAAP does not include site-specific proposals and development, but CAAP measures could result in projects that could be located on listed hazardous materials sites. However, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan, PMC, and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. Therefore, the CAAP would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

- e. *For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

There are no airports within the City of Pinole. The closest airports to Pinole are Oakland International Airport, which is 27 miles away, and San Francisco International Airport, which is 34 miles away. Buchanan Field is a local airport that does not currently support commercial airline service and is in Concord, approximately 15 miles east of Pinole. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to airport hazards. Furthermore, the CAAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related hazards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **no impact** related to risks associated with location proximate to a public airport.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The CAAP and CEQA GHG Emissions Thresholds are policy documents intended to reduce GHG emissions. The proposed CAAP and CEQA GHG Emissions Thresholds do not involve site-specific development, nor would they facilitate new development that would interfere with adopted emergency plans. Implementation of some CAAP measures may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City through the encroachment permit review and permitting process to confirm appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways and that emergency evacuation routes would not be substantially impacted. In addition, CAAP Measure BE-5 would expand renewable energy and battery storage of local community-scale renewable energy. Action CAR-3c also aims to establish a partnership between the City and Police and Fire Departments to collaboratively identify hazards, analyze risk, coordinate emergency response, and complete public outreach efforts, to develop a comprehensive and effective LHMP that enhances community resilience and minimizes the impact of potential disasters by 2028. This would improve the City's ability to respond to emergency events. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to impairment or interference with implementation of an emergency response or evacuation plan.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

According to the Pinole General Plan Health and Safety Element, wildfire poses a high risk to the Sbrante Ridge boundary of the City from Duncan Canyon south through the slopes above Pinole Valley Park.⁵⁰ The CAAP and CEQA GHG Emissions Thresholds do not propose specific development or new residential or commercial land uses that could be subject to wildland fire, nor would they result other physical changes to the environment that could increase the risk of a wildland fire. Furthermore, CAAP Measure WF-1 aims to enforce defensible space and home hardening standards to mitigate structure ignitions and protect the community from wildfires. In addition, the CAAP does not propose specific development or new residential or commercial land uses that could be exposed to wildland fire. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to risks associated with exposure to wildland fires.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Hazards and hazardous materials impacts are typically site-specific in nature. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to

⁵⁰ Pinole, City of. 2010. Pinole General Plan Health and Safety Element. 2010. https://cdnsnm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter9.pdf (accessed December 2023)

cumulative hazards and hazardous materials impacts with adherence to applicable General Plan policies and federal, State, and local regulatory requirements. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to hazards and hazardous materials.

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☒
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
(iv) Impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water quality standards. The CAAP is a policy document containing actions intended to reduce GHG emissions within Pinole. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures TR-4, TR-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. These actions may result in small scale construction activities in the future that could result in temporary water quality impacts due to soil erosion and ground disturbance, as further discussed under *Response 10c* in Section 7, *Geology and Soils*.

However, CAAP projects and actions would be reviewed for consistency with local and State regulations, including the NPDES permitting program that requires implementation of Stormwater Pollution Prevention Plans (SWPPPs), as applicable, and the PMC Chapter 15, Article 36, Section 240 that includes erosion and sediment control standards. Additionally, PMC Chapter 15, Article 36, Section 190 requires that an Erosion and Sediment Control Plan be prepared by a registered civil engineer, unless specific conditions, as outlined in the code, are met. These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the PMC and/or NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAAP's related infrastructure and retrofit projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **less-than-significant impacts** related to surface or groundwater water quality in Pinole.

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundwater supplies. The CAAP is a policy document containing measures intended to reduce GHG emissions and increase adaptive capacity. Additionally, water in the City comes from EBMUD, which utilizes surface water, and no groundwater is used (EBMUD 2024). Nonetheless, CAAP Measure W-1 seeks to decrease community water use by 10 percent from 2017 levels in 2030. Reduced water use within the City would aid in maintaining groundwater supplies. CAAP Measure CS-1 would facilitate the expansion of the urban forest and greenspaces and development of new and enhanced natural areas within Pinole. Increased greenspace and natural areas would increase pervious surfaces in Pinole for improved groundwater recharge. Implementation of other CAAP measures, such as improved EV charging infrastructure and building energy efficiency retrofits, would not substantially degrade groundwater quality or recharge or result in increased groundwater demand. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to impedance of sustainable groundwater management.

- c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- *Result in substantial erosion or siltation on- or off-site?*
 - *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
 - *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
 - *Impede or redirect flood flows?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to alterations in drainage patterns and impervious surfaces. Implementation of several CAAP measures may promote infrastructure development and small-scale construction activities within Pinole. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure, CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. Implementation of these CAAP actions would primarily occur within previously developed areas and would not result in substantial alterations to Pinole's existing drainage patterns and amount of impervious surface. Construction of CAAP projects could result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by PMC Chapter 15, Article 36, which includes erosion and sediment control standards and/or NPDES Construction General Permit program. In addition, CAAP projects would be developed in accordance with the City's General Plan, which includes goals and policies for the protection and preservation of ridgelines, creek corridors, trees, open space areas, and the bayfront.⁵¹ Furthermore, CAAP Measure CS-1 would increase permeable surfaces in Pinole, which would improve drainage and water quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **no impact** related to the alteration of existing drainage patterns.

- d. *Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

According to the General Plan, Pinole is not located within designated seiche or landslide hazard zone.⁵² The Federal Emergency Management Agency (FEMA) National Flood Hazard Map has identified areas in Pinole that are subject to flooding, which are almost entirely located at the San Pablo Bay shoreline and along Pinole Creek- the two surface water features in the City. Therefore, areas of Pinole are at risk of flooding. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to flooding and the risk of the release of pollutants. As described under *Response 10c*, CAAP projects

⁵¹ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

⁵² Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

would not impede or redirect flood flows, and as discussed under *Responses 9a and b* in Section 9, *Hazards and Hazardous Materials*, CAAP projects would generally not involve the regular use or storage of hazardous materials with the exception of renewable energy systems that include the storage of lithium-ion batteries. Future CAAP projects, such as renewable energy systems, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use and storage, including CBC standards for construction. Furthermore, any projects associated with implementation of the CAAP located in flood-prone areas must comply with HMC Chapter 15, Article 5, which provides requirements to mitigate potential flood risks, including general construction standards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to flooding and inundation resulting in release of pollutants.

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to obstruction of a water quality control plan or sustainable groundwater management plan. The CAAP measures would not include activities that would result in the extraction of groundwater. Rather, the CAAP encourages reduced water consumption and expanded pervious surfaces within Pinole, which would aid in groundwater conservation and recharge and reduced surface water runoff and related water quality issues. The CAAP would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with a water quality control plan or sustainable groundwater management plan.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hydrology and water quality. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies and local, State, and federal regulatory requirements. Implementation of the CAAP would not contribute to an increase in growth and development in Pinole but could result in small-scale infrastructure development and building retrofit projects, including new EV charging infrastructure and energy and water efficiency upgrades. As such, implementation of the CAAP and other cumulative projects could have incremental impacts related to hydrology and water quality, such as erosion and sedimentation due to construction activities. However, the CAAP's contribution to such impacts would be minor and temporary, and the CAAP would have the long-term effect of reducing water use and improving sustainable stormwater management. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to hydrology and water quality.

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a. Would the project physically divide an established community?

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to division of an established community. The CAAP is a policy document containing measures that are consistent with the Pinole General Plan and does not include actions or specific development projects that would divide an established community. CAAP Measures TR-1, TR-2, and TR-3 facilitate the installation of active transportation infrastructure and amenities, improved public transit connectivity, and enhanced safety for pedestrians and bicyclists. Such actions would help to increase connectivity within Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to division of an established community.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in a construction or operational conflict with land use plans and policies. Rather, the CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAAP that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City.

The CAAP is a policy document containing measures that are consistent with Pinole's General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the CAAP could require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, CAAP Measures BE-1, BE-2, and BE-3 would establish new building ordinances or updates to the existing municipal code to require building electrification in residential developments and decarbonization of commercial developments. To implement these measures, the PMC, Pinole General Plan, and other applicable City documents may need to be amended to reflect new or

modified requirements. However, where modifications of existing policies are needed, the CAAP measures would result in greater avoidance or reduction of environmental effects. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with current land use plans or policies.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). The CAAP and CEQA GHG Emissions Thresholds are policy documents containing measures that are consistent with the Pinole General Plan. Nonetheless, implementation of the CAAP and CEQA GHG Emissions Thresholds, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would require some modification of existing land use policies, including amending the General Plan and developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes in the CAAP are consistent with the intent of the goals and policies established within the General Plan and PMC and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the CAAP, would be required to adhere to City development regulations and General Plan policies to retain land use character and minimize environmental impacts. Future CAAP projects and actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Therefore, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to land use.

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

No mineral resources are identified in the City of Pinole General Plan.⁵³ Likewise, the CAAP and CEQA GHG Emissions Thresholds would not facilitate additional urban growth or infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to mineral resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Therefore, CAAP-related projects and the CEQA GHG Emissions Thresholds, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative impacts to mineral resources. Thus, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in **no cumulative impact** related to mineral resources.

⁵³ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

- a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance, while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The Health and Safety Element of the Pinole General Plan aims to identify the major sources of noise in the City and ensure that comfortable and safe noise levels are retained throughout the community. Noise in Pinole is primarily generated by vehicular and rail. Noise generated by vehicular traffic in Pinole is greatest along I 80 and San Pablo Avenue. Two rail lines traverse the City, Burlington Northern Santa Fe, and the Union Pacific. There are no significant sources of aircraft or industrial noise in the City of Pinole. The ambient noise environment in Pinole is defined primarily by traffic on I 80, which runs northeast to southwest through the City. As stated in the General Plan, at locations removed from I 80 and the railroads, the ambient noise environment tends to be defined by local traffic and typical neighborhood noise sources. No significant noise-producing commercial or industrial activities are identified in the City of Pinole. From a land use planning perspective, there are two goals for controlling fixed-source noise: to prevent the introduction of new noise-producing uses in noise-sensitive areas and to prevent encroachment of noise-sensitive uses upon existing noise-producing facilities. The first goal can be achieved by applying noise performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in proximity to noise-producing facilities include mitigation measures to ensure compliance with those noise performance standards.

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to excessive noise levels. The CAAP is a policy document containing programs that are consistent with the City's General Plan. Some of the CAAP measures would support small-scale construction projects that could result in temporary noise. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure T-1 would improve bicycle and pedestrian facilities throughout the City, Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure, and CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. However, CAAP projects would be reviewed for consistency with the General Plan and PMC, and construction activities would be required to comply with the provisions of the PMC Section 8.35.030. Therefore, the CAAP would not result in significant construction noise related impacts.

The CAAP does not include future projects that would result in substantial operational noise. Rather, the CAAP encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAAP Measures TR-4, TR-5, TR-6, CIO-2, and CIO-3 encourage adoption of EVs and electric off-road equipment, which are quieter than gas-powered alternatives. Additionally, Measures TR-1 and TR-2 aim to facilitate improvements to bicycle and public transit circulation to increase active transportation and transit ridership and decrease VMT. These measures would reduce VMT and traffic-related noise in Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would not generate excessive operational noise levels and would result in a ***less-than-significant impact*** related to noise exposure.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as

groundbourne noise.⁵⁴ Although groundbourne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern of vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.⁵⁵ Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table 6.⁵⁶

Table 6 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
VdB = vibration decibels	
Source: Federal Transit Administration 2018	

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundborne vibration. The CAAP is a policy document containing programs that are consistent with the City’s General Plan. Some of the CAAP actions would support small-scale construction projects, such as EV charging station construction and building energy and water efficiency retrofits that may result in a temporary, minor increase in groundborne vibration. However, CAAP projects would be reviewed for consistency with the General Plan and PMC, and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would be minimized. Furthermore, CAAP projects would not include operational sources of groundborne vibration. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to groundborne vibration.

- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

⁵⁴ California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf> (accessed December 2023).

⁵⁵ Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed December 2023).

⁵⁶ Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed December 2023).

There are no airports located within the City of Pinole. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to airport noise. Furthermore, the CAAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to airport noise. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to aviation-related noise exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. The CAAP is a policy document containing programs that are consistent with the General Plan, including the Health and Safety Element. Nonetheless, CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would support construction projects, such as EV charging station construction that may result in a temporary increase in groundborne vibration or noise levels. However, cumulative projects, including future CAAP projects, would be subject to review by the City for compliance with the General Plan and PMC and would be required to comply with applicable State and federal regulations governing construction noise and vibration. Additionally, the CAAP encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the CAAP would not generate permanent, excessive groundborne vibration or noise levels. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to noise.

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to substantial unplanned population growth or the displacement of existing people or housing. The CAAP does not include measures, policies, or programs that would result in new housing or jobs or that would displace existing residents or housing. In addition, the CAAP does not propose new infrastructure, such as roadways or utilities, which could indirectly lead to new population growth or development. Therefore, the CAAP would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to population and housing.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole’s anticipated population, employment, and housing growth, are not anticipated to displace people or housing nor induce substantial unplanned population growth within Pinole. Specifically, the CAAP would not contribute to person or housing displacement in Pinole nor result in population growth beyond that already assumed and planned for in the General

Plan. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no cumulative impact** related to population and housing.

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire protection?*
- *Police protection?*
- *Schools?*
- *Parks?*
- *Other public facilities?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to public services. The CAAP is a policy document containing programs that are consistent with the City's General Plan. Implementation of the CAAP and its proposed measures and actions would not result in increases in population or new employment opportunities that could induce population growth, as further discussed in Section 14, *Population and Housing*. As such, the CAAP would not require the construction of new or physically altered governmental facilities to serve an additional population,

the construction of which could cause significant environmental impacts. CAAP Measure WF-1 would help enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers, thereby reducing the burden on local public services related to such natural disasters. Furthermore, future CAAP-related projects would be reviewed for consistency with the General Plan and other applicable local and State regulations related to public services. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to public services in terms of need for the construction of new or altered governmental facilities.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAAP would not result in substantial cumulative need to expand public services facilities. Rather, the CAAP includes measures to improve community resilience and reduce the potential impacts of climate change in the City, thereby reducing the burden on local public services related to climate change-induced disasters. Therefore, the CAAP would result in a ***no cumulative impact*** related to public services.

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

According to the General Plan, Pinole has approximately 358 acres of land that are occupied by thirteen parks, including one regional park, four community parks, and five neighborhood parks. The City also has six school sites with park areas totaling an additional 16.5 acres, as summarized in the Community Services and Facilities Element. Additionally, the Growth Management Element includes an action to establish 3.0 acres of neighborhood or regional parks, or 5.0 acres of dedicated open space per 1,000 residents. Multiple General Plan Elements include goals and actions aimed to protect open space and recreational resources, including the Land Use and Economic Development, Community Services and Facilities, and Natural Resources and Open Space Elements. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to parks or recreational facilities. The CAAP is a policy document containing programs that are consistent with the General Plan, including the recreation and open space policies established in the Land Use and Economic Development, Community Services and Facilities, and Natural Resources and Open Space Elements. CAAP MeasureTR-1 includes an action that aims to connect open spaces currently disconnected from active transportation routes. Additionally, Measure SLR-2 includes an action that aims to identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. Furthermore, as described in Section 14, *Population and Housing*, the CAAP would not result in substantial population growth or direct land use changes. As such, implementation of the CAAP would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAAP and CEQA GHG Emissions Thresholds

would result in ***no impact*** related to the need for construction of new or altered recreational facilities.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of CAAP projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAAP would not result in increased demand for parks or substantial cumulative physical deterioration of parks or other recreational facilities or result in the cumulative need to expand recreational facilities. In addition, the CAAP includes measures to increase greenspace, natural areas, and parks within the community, which aligns with the General Plan recreation goals. Therefore, implementation of the CAAP would result in ***no cumulative impact*** related to recreation.

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

- a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*
- b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The General Plan Circulation Element includes the following goals:

- **Goal CE.1:** Reduce vehicle miles traveled and encourage the use of public transit.
- **Goal CE.2:** Achieve a coordinated regional and local transportation system that minimizes traffic congestion and efficiently serves users.
- **Goal CE.3:** Provide timely input and effective means (as appropriate) of programming street and highway improvements to maintain the objective peak hour level of service without detrimentally impacting community character or commercial activity.
- **Goal CE.4:** Establish programs to support sidewalk, trail and street enhancements, where feasible.
- **Goal CE.5:** Provide adequate parking and loading facilities while encouraging alternative means of transportation.
- **Goal CE.6:** Reduce the amount of peak hour automobile congestion on city streets, as appropriate.
- **Goal CE.7:** Support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders.
- **Goal CE.8:** Provide a safe network of well-maintained pedestrian walkways throughout Pinole that encourages walking as a form of non-motorized transportation.

Additionally, the City is preparing an Active Transportation Plan ([ATP] Walk & Roll Pinole 2024) to establish a vision for improving walking and bicycling within Pinole for people of all ages and abilities. When complete, it is anticipated that the City's ATP will provide recommendations that seek to increase safety, accessibility, and comfort for pedestrians and bicyclists; enhance connectivity between existing transportation networks and key destinations; and help the City address regional goals to reduce VMT.⁵⁷

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts that would conflict with a program, plan, ordinance, or policy addressing the transportation circulation system. The CAAP is a policy document containing measures and policies that are consistent with the General Plan Circulation Element. CAAP Measure TR-1 aims to create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share, and Measure T-2 would implement public and shared transit improvements and programs to achieve an increase public transit mode share. Additionally, CAAP Measure TR-3 aims to develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2. These CAAP measures would advance active transportation and public transit within Pinole and decrease VMT and associated air pollutants and GHG emissions. These CAAP measures would be consistent with the General Plan Circulation Element goals related to improving multi-modal facilities, reducing VMT and single-occupancy vehicles, encouraging active transportation, and reducing vehicle congestion within Pinole.

Furthermore, the CAAP would seek to reduce VMT within the City, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to consistency with plans addressing the transportation circulation system and CEQA Guidelines section 15064.3, subdivision (b).

- c. *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*
- d. *Would the project result in inadequate emergency access?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to risk associated with transportation design, incompatible use, or emergency access. The CAAP is a policy document containing measures that are consistent with the General Plan and would not facilitate development beyond that allowed under the General Plan. Implementation of some CAAP measures may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City through the encroachment permit process to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways. Coordination with the City would ensure that significant impacts to the circulation system design, including safety impacts and emergency access, would not occur. As such, construction of future CAAP-related projects would not create transportation design hazards or result in inadequate

⁵⁷ Pinole, City of. 2024. Walk & Roll Pinole 2024: A Plan for People of All Ages and Abilities. https://ghd.mysocialpinpoint.com/pinole_atp (Accessed February 2024)

emergency access. Furthermore, the CAAP would facilitate increased active transportation and public transit use and decreased VMT within Pinole, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth could result in increases in VMT or changes affecting traffic design safety and emergency access. However, the CAAP is a policy document containing programs that are consistent with the General Plan and other applicable transportation policies and does not propose new development that would increase VMT, result in design hazard, or affect emergency access. Rather, the CAAP measures and actions would promote alternative modes of transportation and reduction of VMT throughout Pinole, consistent with goals contained in the Circulation Element. Therefore, the CAAP would result in a ***less-than-significant cumulative impact*** related to transportation.

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?	☐	☐	☒	☐

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?*

On January 26, 2024, 14 Native American Heritage Commission (NAHC)-identified local Native American tribal representatives from 12 Native American Tribal groups were formally notified that the City initiated environmental review of the CAAP and CEQA GHG Emissions Thresholds and were invited to consult on the plan. On February 1, 2024, the NAHC provided an updated list with six

additional representatives for local Native American Tribal groups, and these additional representatives were formally notified of the project on February 1, 2024. The Native American Tribal groups that were notified for the plan include the following:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Chicken Ranch Rancheria of Me-Wuk Indians
- Guidiville Indian Rancheria
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- Nashville Enterprise Miwok-Maidu-Nishinam Tribe
- North Valley Yokuts Tribe
- The Ohlone Indian Tribe
- The Confederate Villages of Lisjan
- Tule River Indian Tribe
- Wilton Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

On January 30, 2024, a representative from the Confederate Villages of Lisjan responded requesting a consultation. On April 17, 2024, City staff met with representatives from the Confederate Villages of Lisjan to initiate the consultation. During the meeting, the proposed project was discussed. Additionally, the specific conditions, measures, or protocols that are being considered to address concerns of local tribes as part of the proposed project, and areas where Tribes can work with the City to implement the CAAP were discussed. No mitigation measures were requested, and no tribal cultural resources were identified that could be impacted by the plan. Therefore AB 52 compliance requirements have been met.

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to tribal cultural resources. The CAAP would not involve land use or zoning changes that would increase development within the City but would instead promote sustainable infrastructure development within the urbanized area of the City. As a policy document, the CAAP would also not directly entail ground disturbing activities; however, implementation of various CAAP actions related to existing building energy, active transportation facilities, EV charging infrastructure, and tree planting may include minor construction activities in the future.

Implementation of these CAAP actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, the CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAAP projects and actions would be reviewed for consistency with applicable local, regional, and state tribal cultural and archaeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the Community Character Element of the General Plan, which requires a cultural resources study to be complete for all applicable discretionary projects by a professional archaeologist or architectural historian that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology (Action CC.4.2.4). Additionally, Action CC.4.2.5 states that, "should any cultural resources such as structural features, unusual amounts of bone or shell, artifacts, or architectural remains be encountered

during development activities, work shall be suspended within 50 feet of the discovery and the City of Pinole Community Development Department shall be immediately notified...” As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to tribal cultural resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. CAAP projects, in combination with other cumulative projects that occur to accommodate Pinole’s anticipated population, employment, and housing growth, could increase the potential for adverse effects to unknown tribal cultural resources in Pinole. However, impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. CAAP projects and other cumulative projects would be required to comply with the actions outlined in the Community Conservation Element related to a cultural resource study be complete, and if unanticipated items be found, the City would be contacted immediately, and work would be halted within 50 feet of the discovery. Therefore, the CAP would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have direct construction or operational impacts related to utilities and service systems. The CAAP is a policy document aimed at reducing solid waste production and energy and water consumption, amongst other issues, and the related GHG emissions throughout Pinole and does not include site-specific infrastructure designs or project proposals. Implementing the CAAP would not

result in an increase in population or housing nor would it facilitate growth beyond that anticipated by the General Plan. As such, implementation of the CAAP would not create new demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities. However, projects resulting from implementation of the CAAP could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage and green stormwater infrastructure projects. Potential impacts related to these measures are discussed further below.

Water Supply Facilities/Infrastructure

The City of Pinole receives water from the East Bay Municipal Utility District (EBMUD). The EBMUD supplies water and provides wastewater treatment for a large part of Alameda and Contra Costa counties. According to the EBMUD Urban Water Management Plan (UWMP), the EBMUD water supply system collects, transmits, treats, and distributes water from its primary water source, the Mokelumne River, to its customers in the San Francisco East Bay Area.⁵⁸ The Mokelumne Aqueducts convey the Mokelumne River supply from Pardee Reservoir, located upstream of Camanche Dam, across the Sacramento-San Joaquin River Delta (Delta) to local storage and treatment facilities in the East Bay. After treatment, water is distributed to the incorporated cities and unincorporated communities in Alameda and Contra Costa counties that EBMUD serves. Based on the historical average, approximately 90 percent of the raw water entering EBMUD's system originates from the Mokelumne River watershed, and approximately 10 percent originates as runoff from the protected watershed lands in the East Bay Area.

CAAP Measure W-1 seeks to decrease community water use by adopting a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies with a focus on domestic water use, health and sanitation, and fire protection. Additionally, implementation of this measure would include a variety of educational campaigns that focus on water conservation, removing non-functional or decorative turf, and water-wise landscaping and watering practices. Likewise, CAAP Measure W-2 aims to increase the community's use, supply, and access to recycled water. This would be achieved through completion of a feasibility study with EBMUD to identify opportunities for increase supply of recycled water in the City, pursuit of funding for recycled water infrastructure, and development of a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used. Additionally, CAAP Measure CS-1 aims to increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire, which includes an action to amend the municipal code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment, improving water infiltration and groundwater recharge. Furthermore, the CAAP would not result in new land uses, such as increased residential or commercial development, which would contribute to an increase in water use compared to existing conditions or that would require relocation or construction of new water infrastructure. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have **no impact** related to the need for construction or expansion of water supply facilities and infrastructure.

⁵⁸ EBMUD. Urban Water Management Plan 2020. June 2021. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024).

Wastewater Treatment Facilities/Infrastructure

The City of Pinole has a sewer collection system serving most of the City of Pinole, however, some areas in the southwest portion of the City are served by West County Wastewater District. The City of Pinole owns and operates the Pinole-Hercules Water Pollution Control Plant that provides secondary treatment of domestic, commercial, and industrial wastewater, serving a population of about 40,000, with an average daily flow of 3.5 million gallons.⁵⁹ The wastewater collection system includes approximately 49 miles of City-owned gravity sanitary sewers, 565 manholes, two lift stations, less than a mile of pressure force mains, and about 5,340 laterals.⁶⁰

The CAAP would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount of wastewater treated at the Water Pollution Control Plant would not change compared to existing conditions with implementation of the CAAP. The CAAP would not require relocation or construction of new wastewater treatment infrastructure. However, CAAP Measure SW-4 aims to analyze the opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery. This analysis would include a feasibility study to identify local partners, analyze the potential volume of waste, and assess facility upgrades needed to complete a pilot project at the WWTP and would not include direct construction or expansion of wastewater treatment facilities. Therefore, **no impact** related to construction or expansion of wastewater treatment facilities and infrastructure would occur.

Stormwater Drainage Facilities/Infrastructure

The City maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, implementation of CAAP measures related to building electrification and energy and water efficiency upgrades, renewable energy production and storage, transportation, and urban trees may promote infrastructure development that would involve small-scale construction. Construction of projects implemented in accordance with the CAAP could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAAP projects would be required to comply with local, State, and federal requirements during construction that would control stormwater runoff, erosion, and potential impacts to the stormwater drainage system. In addition, CAAP Measure CS-1 would support the planting of urban trees and development of new greenspace and natural areas, which would increase permeable surfaces throughout the City, improving water infiltration and stormwater management. Therefore, **no impact** related to construction or expansion of stormwater drainage facilities and infrastructure would occur.

Electric Power Facilities/Infrastructure

Electric power service in the City is provided by MCE using transmission infrastructure operated and maintained by Pacific Gas & Electric (PG&E). CAAP Measures BE-1, BE-2, and BE-3 promote building electrification of new and existing buildings, energy efficiency retrofits of existing buildings, and energy efficient buildings for future development. CAAP Measure BE-5 aims to increase the use of

⁵⁹ Pinole, City of. 2018. Wastewater Treatment Plant.

https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant#:~:text=In%201972%20the%20plant%20was,flow%20of%203.5%20million%20gallons. (Accessed February 2024)

⁶⁰ Pinole, City of. 2018. Wastewater Collection. https://www.ci.pinole.ca.us/city_government/public_works/wastewater_collection (Accessed February 2024)

renewable energy in the City, while Measure BE-6 supports installation of small-scale renewable energy systems and battery storage to provide greener renewable electricity within the City. In addition, CAAP Measures TR-4 and TR-5 encourage new EV infrastructure throughout the City. These CAAP measures may slightly alter electricity demand within Pinole. However, the CAAP would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption and increase in renewable energy production. Therefore, the CAAP would result in a **less-than-significant impact** related to construction, expansion, or relocation of electric power facilities and infrastructure.

Natural Gas Power Facilities/Infrastructure

PG&E provides natural gas services to the City. The CAAP would not involve new land uses that require new or additional natural gas services that could require the construction of new or expanded natural gas facilities. CAAP Measures BE-1, BE-2, and BE-3 would encourage building electrification in new and existing buildings to reduce natural gas consumption within the City. Implementation of these measures could involve minor alterations to existing natural gas infrastructure as natural gas use is reduced. However, the CAAP would serve as a pathway to reduce GHG emissions, including emissions related to natural gas consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAAP would result in a **less-than-significant impact** related to construction, expansion, or relocation of natural gas facilities and infrastructure.

Telecommunications Facilities/Infrastructure

The City is served by existing telecommunications companies such as AT&T and Xfinity. The CAAP would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications infrastructure. Therefore, the CAAP would result in **no impact** related to the need for construction or expansion of telecommunication facilities and infrastructure.

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*
- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Water supply is addressed in the EBMUD UWMP, which is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. According to the UWMP, EBMUD has analyzed four different hydrological conditions to determine the reliability of water supplies: normal water year, single dry year, second dry year, and third dry year. The UWMP indicates that water supplies under the average/normal year conditions will be sufficient to meet demand through 2040. In addition, the UWMP includes a Water Shortage Contingency Plan.⁶¹ The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water supplies or wastewater. The CAAP is a policy-level document that does not include site-specific

⁶¹ EBMUD. Water Shortage Contingency Plan 2020. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024)

infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or wastewater treatment. Rather the CAAP contains measures and actions to reduce water use, such as Measure W-1, which encourages a reduction of water consumption of 10 percent by 2030, that would reduce water demand and wastewater production. Thus, the CAAP would result in **no impact** related to water supply and wastewater treatment.

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

Republic Services provides solid waste services within the City. Municipal solid waste generated in Pinole is primarily disposed of at the Keller Canyon Landfill in Bay Point. The Keller Canyon Landfill has a maximum permitted throughput of 3,500 tons per day of solid waste per day and has a remaining capacity of 63,408,410 cubic yards.⁶²

The CAAP focuses on sustainable infrastructure development and does not include land use or other policy changes that would result in increased residential, commercial, or other development that would increase solid waste generation within the City. CAAP Measures SW-1, SW-2, and SW-3 seek to reduce the amount of waste produced within the City by reducing consumption and implementing sustainable waste programs. These CAAP measures align with federal, State, and local regulations aimed at reducing solid waste disposal and increasing organic waste diversion, such as SB 1383. Additionally, because the CAAP is a policy document that would not facilitate growth beyond that anticipated by the 2040 General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the CAAP would result in **no impact** related to solid waste.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CAAP and related infrastructure projects would not contribute to increases in population or induce additional population growth that would require additional use of existing City utilities or service systems. Rather, implementation of the CAAP would result in reduced energy and water consumption and solid waste and wastewater production. Therefore, implementation of the CAAP would result in a **less-than-significant cumulative impact** related to utilities and service systems.

⁶² California Department of Resources Recovery and Recycling (CalRecycle). 2023. SWIS Facility/Site Activity Details: Keller Canyon Landfill. <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228> (accessed February 2024).

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

- a. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
- b. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to the California Department of Forestry and Fire Protection, the portion of the City that has the greatest fire risk is on the periphery of the eastern side and the fire hazard severity zones are located south of Pinole Valley Road in the open space area.^{63,64} Though there are areas in Pinole that are at risk of wildfires, the CAAP and CEQA GHG Emissions Thresholds are policy-level documents that do not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor do they grant entitlements for development that would have the potential to directly cause wildfire. The CAAP actions would generally apply to the urbanized areas of Pinole with little application to parks, open space areas, or other locations where wildland fire risk exists. Additionally, CAAP Measure WF-1 would help to reduce community vulnerability to wildfires by enforcing defensible space and home hardening standards to mitigate structure ignitions from wind blow embers. Specifically, Measure WF-1 includes actions to conduct a feasibility study and if recommended, amend the Pinole Building Code to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone. Measure WF-1 also includes an action to prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas. Thus, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to wildfire.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. The CAAP does not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Rather, implementation of the CAAP measures would reduce and mitigate the effects of climate change, including wildfire. Therefore, the CAAP would result in **no cumulative impact** related to wildfire.

⁶³ California Department of Forestry and Fire Protection. 2023. State Responsibility Area Fire Hazard Severity Zones. https://osfm.fire.ca.gov/-/media/OSFM%20Website/What%20We%20Do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map-2022/fire-hazard-severity-zones-maps-2022-Files/fhsz_county_sra_11x17_2022_contracosta_2 (accessed January 2024).

⁶⁴ California Department of Forestry and Fire Protection. 2008. Very High Fire Hazard Severity Zones in LRA. <https://34c031f8-c9fd-4018-8c5a-4159cdf6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map/upload-4/pinole.pdf> (accessed February 2024).

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

- a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAAP and CEQA GHG Emissions Thresholds is to reduce GHG emissions from community operations while increasing community resilience to climate change through implementation of measures and actions related to energy use, water consumption, waste reduction, transportation, solid waste, carbon sequestration, community adaptation and resilience, flood control, sea level rise, extreme heat, wildfire, and municipal operations. The CAAP measures and actions are consistent with the General Plan and encourage residents, businesses, and the municipal facilities to reduce energy and water use, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAAP and CEQA GHG Emissions Thresholds would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of

the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural Resources*, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to biological and cultural resources.

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of the CAAP would result in a cumulatively beneficial reduction of GHG and air pollutant emissions across the City. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAAP would not result in significant cumulative impacts. Rather, implementation of the CAAP would be consistent with Pinole’s General Plan policies aimed at reducing GHGs emissions and air pollutants, reducing VMT, reducing energy and water supply demands on utilities, and decreasing solid waste generation. Therefore, the CAAP would result in an overall ***less-than-significant cumulative impact*** related to all CEQA topics addressed within this document.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, GHG emissions and climate change, hazards and hazardous materials, noise, transportation, and wildfire impacts. As detailed in the preceding sections, the CAAP and CEQA GHG Emissions Thresholds would not result, either directly or indirectly, in substantial adverse effects related to air quality, GHG emissions, hazards, noise, transportation, or wildfire. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAAP could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in substantial adverse effects. In addition, as discussed throughout this document, the CAAP would serve as a pathway to reduce operational GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy and water consumption, VMT and traffic noise, and solid waste generation, as well as improved air quality and resilience to the effects of climate change and natural disasters. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to potential for adverse effects on human beings.

References

- Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG-MTC). 2021. Plan Bay Area 2050. <https://www.planbayarea.org/finalplan2050> (accessed November 2023).
- Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).
- _____. 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status> (accessed December 2023).
- _____. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. <https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans> (accessed December 2023).
- California Air Resources Board (CARB). 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).
- _____. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023).
- _____. 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed December 2023).
- _____. 2017. California 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).
- _____. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf> (accessed December 2023).
- California Air Resources Board and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf> (accessed December 2023).
- California Air Resources Board (CARB). 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).

- _____. 2017. California 2017 Climate Change Scoping Plan.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf
(accessed November 2023).
- _____. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality.
<https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023)
- California Department of Conservation. 2022. California Important Farmland Finder.
<https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed January 2024).
- _____. 2022. California Williamson Act Enrollment Finder.
<https://gis.conservation.ca.gov/portal/home/webmap/viewer.html?webmap=18f7488c0a9d4d299f5e9c33b312f312> (accessed December 2023).
- California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-203.
<https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/> (accessed January 2024).
- California Department of Fish and Wildlife (CDFW). 2019. Natural Community Conservation Plans.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline> (accessed January 2024).
- California Department of Forestry and Fire Protection. 2023. State Responsibility Area Fire Hazard Severity Zones.
https://osfm.fire.ca.gov/media/s1wfn gas/fhsz_county_sra_11x17_2022_alameda_2.pdf
(accessed January 2024).
- _____. 2008. Very High Fire Hazard Severity Zones in LRA.
https://osfm.fire.ca.gov/media/6638/fhszl_map1.pdf (accessed February 2024).
- California Department of Resources Recovery and Recycling (CalRecycle). 2023. SWIS Facility/Site Activity Details: Keller Canyon Landfill.
<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228> (accessed February 2024).
- California Department of Transportation (CalTrans). 2024. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways> Accessed February 2024
- _____. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf> (accessed December 2023).
- California Energy Commission (CEC). 2023. Electricity Consumption by County.
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx> (accessed December 2023).
- _____. 2023. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>
(accessed December 2023).
- _____. 2022. 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf (accessed January 2024).

- California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. <http://www.climateassessment.ca.gov/state/> (accessed December 2023).
- Contra Costa Transportation Authority. 2017 Countywide Comprehensive Transportation Plan, Volume 1. September 10, 2017. <https://ccta.net/wp-content/uploads/2021/07/2017-CTP-Vol-1.2017.10.05.pdf> (accessed January 2024)
- _____. West County Action Plan. March 2023. https://ccta.net/wp-content/uploads/2023/03/Draft-West-County-Action-Plan_03-13-23.pdf (accessed January 2024)
- _____. Countywide Transportation Plan and Action Plans. 2024. <https://ccta.net/planning/countywide-transportation-plan/> (accessed January 2024)
- Contra Costa County, California. Municipal Climate Action Plan. December 2008. <https://www.contracosta.ca.gov/DocumentCenter/View/2905/Municipal-Climate-Action-Plan-1208-Attachment-A?bidId=> (accessed January 2024)
- _____. Contra Costa County Climate Action Plan. December 15, 2015. <https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=> (accessed January 2024)
- _____. Envision Contra Costa 2040. <https://envisioncontracosta2040.org/overview/#cap> (accessed January 2024)
- East Bay Municipal Utility District (EBMUD). Urban Water Management Plan 2020. June 2021. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024).
- _____. Water Shortage Contingency Plan 2020. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024)
- _____. Water Quality. <https://www.ebmud.com/water/about-your-water/water-quality> (accessed June 2024)
- Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed December 2023).
- Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed December 2023).
- Marin Clean Energy (MCE). 2018. 2019 Integrated Resource Plan. https://www.mcecleanenergy.org/wp-content/uploads/2020/01/MCE-Integrated-Resource-Plan_2019.pdf (accessed January 2024)
- Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).
- _____. 2023. Draft CEQA GHG Thresholds.

- _____. 2024. Draft Climate Action Plan Appendix C.
- _____. 2018. Design Review.
https://www.ci.pinole.ca.us/city_government/planning/design_review (accessed January 2024).
- _____. General Plan Housing Element 2023-2031. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/Housing%20Element/2023-2031%20Housing%20Element%20-%20Certified.pdf (accessed January 2024)
- _____. Municipal Code. https://codelibrary.amlegal.com/codes/pinole/latest/pinole_ca/0-0-0-10163 (accessed January 2024).
- _____. 2024. Walk & Roll Pinole 2024: A Plan for People of All Ages and Abilities.
https://ghd.mysocialpinpoint.com/pinole_atp (Accessed February 2024)
- _____. Wastewater Treatment Plant.
https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant#:~:text=In%201972%20the%20plant%20was,flow%20of%203.5%20million%20gallons.
(Accessed February 2024)
- _____. Pinole, City of. 2018. Wastewater Collection.
https://www.ci.pinole.ca.us/city_government/public_works/wastewater_collection
(Accessed February 2024)
- Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.
- United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

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Rincon prepared this CAAP and CEQA GHG Emissions Thresholds Initial Study-Negative Declaration under contract to the City of Pinole. Persons involved in data gathering, environmental impact analysis, quality review, graphics preparation, and document formatting include the following.

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Appendix A

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O ₃)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO _x) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO _x emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO ₂)	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM ₁₀)	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO _x , SO _x , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM ₁₀ . Conserve energy.
Fine particulate matter (PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO _x , SO _x , organics, and NH ₃).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO ₂ , (see SO ₂ sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO ₂

Climate Action and Adaptation Plan and CEQA GHG Emissions Thresholds

Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM _{2.5}	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM _{2.5}
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.
Source: Compiled by Rincon Consultants, Inc. in October 2023			

Appendix B

Description of Greenhouse Gases of California Concern

Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO ₂)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH ₄)	Flammable gas and is the main component of natural gas.	28	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N ₂ O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants; aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF ₆)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas
Nitrogen trifluoride (NF ₃)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in October 2023

City of Pinole
Climate Action
and Adaptation

Plan

Public Review Draft
August 2024



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Land Acknowledgement



We would like to acknowledge the Ohlone people, who are the traditional custodians of this land. We pay our respects to the Ohlone elders, past, present, and future, who call this place, Ohlone Land, the land that Pinole sits upon, their home. We are proud to continue their tradition of coming together and growing as a community. We thank the Ohlone community for their stewardship and support, and we look forward to strengthening our ties as we continue our relationship of mutual respect and understanding.



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Project Acknowledgements

This Climate Action and Adaptation Plan was a collaborative effort between City staff from all departments and could not have been possible without the input and engagement from the Pinole Community. Thank you!

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Project Partners

The City of Pinole would like to thank the following partners for their support and partnership to achieve the goals set forth in this Plan:

- 511 Contra Costa
- Bay Front Chamber of Commerce
- Contra Costa College
- Contra Costa County Green Business Program
- Cool the Earth
- Confederated Villages of Lisjan
- Contra Costa County Department of Conservation and Development
- East Bay Economic Development Alliance
- East Bay Municipal Utility District
- Food Banks of Contra Costa and Solano
- Friends of Pinole Creek Watershed
- Kitchen@812
- Marin Clean Energy
- Pinole Artisans
- Pinole Library
- Pinole Valley High School
- Pinole Valley High School Earth Team
- RecycleMore
- Republic Services
- Rethink Disposables
- Rising Sun
- SF Bay Conservation and Development Commission
- Sustainable Contra Costa
- West Contra Costa Fire Safe Council
- WestCAT
- Workforce Development Board of Contra Costa County

Pinole Artisans



Workforce
Development Board
Contra Costa County



CONTRA COSTA
CONSERVATION & DEVELOPMENT



CONTRA COSTA
COLLEGE



Friends of Pinole Creek Watershed



REPUBLIC
SERVICES



RISING SUN
CENTER FOR OPPORTUNITY



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Purpose of this Plan

This Climate Action and Adaptation Plan (CAAP) aims to support Pinole’s “fair share” towards reducing greenhouse gas (GHG) emissions. It is designed to help Pinole achieve California’s goals outlined in Senate Bill (SB) 32, which requires the state to reduce GHG emissions 40 percent below 1990 levels, as well as make substantial progress towards carbon neutrality in support of Assembly Bill (AB) 1279, which requires California to achieve “net zero greenhouse gas emissions” as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. The CAAP is consistent with the California Environmental Quality Act (CEQA) requirements outlined in Section 15183.5(b), includes a framework for implementation, monitoring emission reduction activities, and further promotes community resilience and adaptation. This CAAP is consistent with the criteria set forth in CEQA Guidelines Section 15183.5(b) as outlined below:

1. Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area (See Chapter 2).
2. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable (See Chapter 2).
3. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area (See Chapter 2).
4. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level (See Chapter 3 and Appendix C).
5. Establish a mechanism to monitor the plan’s progress toward achieving the level and to require amendment if the plan is not achieving specified levels (See Chapter 5).
6. Be adopted in a public process following environmental review (See Appendix D).

This CAAP serves as a Qualified Climate Action Plan for which the City can streamline the environmental review process of GHG emissions generated from future projects. In turn, this can save time and money during the environmental review process while simultaneously spurring emissions reductions and promoting sustainable, economic growth and prosperity.

1. “Fair share” is considered what a country’s total contribution would need to be to make a fair contribution to implementing the Paris agreement. This is interpolated to the City level for the purpose of regional climate action planning. (Climate Action Tracker n.d.)
<https://climateactiontracker.org/methodology/cat-rating-methodology/fair-share/>
https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2023/small_container_2023/isqr.pdf



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Glossary of Terms

Term	Definition
Active Transportation	A means of transportation that is powered by human energy, for example walking or biking.
Adaptation	The process of adjusting to actual or expected climate and its effects (e.g., reducing urban heat island effect by planting shade trees in parking lots or installing “green infrastructure” around buildings to manage storm water). In human systems, adaptation seeks to moderate or avoid harm and exploit beneficial opportunities for positive outcomes.
Adjusted Forecast	Several federal and state regulations have been enacted that would reduce Pinole’s GHG emissions in 2030, 2035, 2040, and 2045. The impact of these regulations was quantified and incorporated into the adjusted forecast to project future emissions growth and the responsibility of the City and community once established state regulations have been implemented. The adjusted forecast additionally includes GHG emissions reductions from the City’s switch from Pacific Gas and Electric (PG&E)-provided electricity to Marin Clean Energy (MCE)-provided electricity in 2018. MCE is a community choice aggregation (CCA) in Contra Costa County, which provides lower-emissions electricity options to Pinole.
Anthropogenic	Made by people or resulting from human activities; usually used in the context of emissions that are produced because of human activities.
Atmosphere	The envelope of gases surrounding the Earth; the gases that make up the atmosphere primarily include nitrogen (78%) and oxygen (21%), as well as argon, helium, carbon dioxide, methane, and water vapor in trace amounts.
Backup Power	Any device that provides instantaneous uninterruptible power, for example, a battery or generator.
Business as Usual Forecast	Provides an estimate of how GHG emissions would change in the forecast years if existing action continued as in 2017, absent any new regulations or actions which would reduce local GHG emissions.
CALGreen	An abbreviated reference to the California Green Building Standards code, which sets minimum requirements for sustainable practices for construction (residential and commercial) projects throughout the state. It is updated every three years in accordance with the building cycle.
CALGreen Tier 1 & 2	Requirements beyond the mandatory measures laid out by CALGreen: Tier 1 adds additional requirements to the mandatory sustainability requirements, and Tier 2 further increases those sustainability requirements.
CalRecycle	Agency that administers and provides oversight for all of California’s state-managed non-hazardous waste handling and recycling programs.
California Air Resources Board (CARB)	The lead agency for climate change programs that also oversees all air pollution control efforts in California to attain and maintain health-based air quality standards
California Building Standards Commission (CBSC)	The CBSC is charged with administering California’s building code adoption process, coordinating, and managing the model code adoption process for state agencies, and reviewing and approving building standards adopted by state agencies, among other duties.
Carbon-free Energy	Energy produced by a resource that generates no carbon emissions, for example, wind power.
Carbon-neutrality/Net-Zero Emissions	Balancing anthropomorphically generated emissions out by removing GHGs from the atmosphere in a process known as carbon sequestration.
Carbon sequestration	The long-term storage or capture of carbon dioxide and other forms of carbon from the atmosphere through biological, chemical, and physical processes.

Term	Definition
California Environmental Quality Act (CEQA)	1970 California statute requiring state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts.
Climate Hazard	A potential occurrence of climate related physical events or trends that may cause damage and loss.
CH ₄	Methane, a hydrocarbon that is a greenhouse gas produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.
Climate	The average of weather patterns over a long period of time (usually 30 or more years).
Climate Change	A change in the average conditions — such as temperature and rainfall — in a region over a long period of time.
Community Based Organization (CBO)	A public or private nonprofit organization that is representative of the community or specific segments of a community and provides educational or outreach services to the community.
Complete Streets	Designed and operated to enable safe use and support mobility for all users. Complete Streets approaches address a range of elements including sidewalks, bicycle lanes, bus lanes, public transportation stops, and median islands.
Carbon dioxide (CO ₂)	A naturally occurring gas and a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes.
Carbon dioxide equivalent (CO ₂ e)	A metric measure used to compare the emissions from various greenhouse gases based upon their GWP.
Decarbonization	Reduction or elimination of carbon dioxide emissions from a process such as manufacturing or the production of energy.
Disadvantaged and Vulnerable Communities	Areas which suffer disproportionately from a combination of economic, health, and environmental burdens (e.g., poverty, high unemployment, air and water pollution, presence of hazardous wastes, as well as higher rates of asthma and heart disease).
Distributed Energy Resources (DERs)	Small-scale electricity demand or supply resources that are interconnected to the electric grid, and usually located close to load centers where they can be used individually or in aggregate to support the grid
Electrification	The conversion of a machine or system to the use of electrical power (e.g., switching from natural gas to electricity to power appliances).
Emissions	The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.
Environmental Justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
Electric Vehicle (EV)	A vehicle that uses one or more electric motors or traction motors for propulsion.
Energy Storage	Provides frequency regulation to maintain balance between the network's load and detected power generated, achieving more reliable power supplies. Batteries are an example of energy storage.
Fossil Fuel	A general term for fuel formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the Earth's crust.
Greenhouse Gas (GHG)	A gas that absorbs infrared radiation, traps heat in the atmosphere, and contributes to the greenhouse effect.
Global Warming Potential (GWP)	Total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.
Greywater	Domestic wastewater generated in households or office buildings from streams such as sinks, showers, baths, washing machines or dishwashers.

Term	Definition
High-road jobs	High-road jobs provide family supporting wages, benefits, safe working conditions, fair scheduling practices, and transparent career advancement opportunities; recognize workers' experience and knowledge to inform job structures/descriptions and quality; take a systematic approach to generating greater opportunity for those who have been left out of the mainstream economy, are under-represented in high-wage occupations and industries, and/or face multiple barriers to quality in employment; and address issues related to environmental sustainability, particularly climate change, given the serious implications that climate change has for California's economy and the disproportionate impacts of climate change on low-income communities and communities of color.
Local Governments for Sustainability (ICLEI)	A global network of more than 1,750 local and regional governments committed to sustainable urban development – emissions estimates were calculated using ICLEI's best available methodologies
Intergovernmental Panel on Climate Change (IPCC)	The United Nations body for assessing the science related to climate change
Metric Tons (MT)	Common international measurement for the quantity of greenhouse gas emissions – one metric ton is equal to 2205 pounds or 1.1 short tons.
Metric tons carbon dioxide equivalent (MT CO ₂ e)	Metric/unit that GHG emissions are reported per standard practice; when dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes.
Microgrid	A group of interconnected loads and distributed energy resources that act as a single controllable entity in respect to the grid. A microgrid can operate in 'island mode' and disconnect from the grid or operate while connection to the grid.
Mitigation	Reducing GHG emissions (e.g., by reducing fossil fuels used in energy and transportation, reducing waste generated, and reducing water use).
Mode Shift	Changing from one form of transportation to another, specifically, switching from traveling via car to traveling via bicycle or public transport.
Nitrous Oxide (N ₂ O)	A powerful GHG with a high global warming potential; major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning.
Organic Material	Natural or organic materials, for example food scraps and yard waste.
Photovoltaic (PV)	Relates to the production of electric current at the junction of two substances exposed to light (e.g. solar energy).
Qualified GHG Reduction Plan	A plan that accommodates growth in a manner that does not hinder the state's ability to reach further emission reduction goals and specifically complies with the requirements of CEQA Section 15183.5(b).
Quantified Reduction Measure or Action	A quantified measure or action has an associated calculation that estimates the GHG reductions associated with the measure/action. Quantified measures are summed to show the total reduction expected by implementing the CAAP.
Representative Concentration Pathway (RCP)	Greenhouse gas concentration trajectory scenarios adopted by the IPCC.
Reach Code	A building code which requires a higher level of energy efficiency than the standard statewide code. Reach codes are allowed and encouraged under Title 24.
Remodels/ Alterations	A building update that changes the exterior detail of a structure, but not its basic shape or size.
Renewable Energy	Energy derived from natural sources that are replenished at a higher rate than they are consumed (e.g., wind, biomass).
Resilience	Ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate.
Resilience Center	Physical spaces that provide shelter and resources during climate and other emergencies, as well as year-round services and programming that strengthen community connections and ability to withstand disasters

Term	Definition
Senate Bill (SB) 32	The California Senate bill that was codified in 2016 and requires there be a reduction in GHG emissions to 40% below 1990 levels by 2030.
Senate Bill (SB) 1383	California's Short-Lived Climate Pollutant Reduction Strategy, which sets statewide targets to reduce compostable materials in landfills by 75 percent by 2025, and to rescue at least 20 percent of edible food currently disposed for human consumption by 2025.
Sequestration	The storage of carbon in plants or materials so that it cannot enter the atmosphere and cause additional warming.
Social Equity	All people having equal access to and influence on the resources and benefits of society.
Supportive Measure or Action	One which has not been quantified and does not provide a direct or easily quantified GHG reduction; however, these measures are expected to contribute to overall GHG reductions and/or provide co-benefits.
Transportation Demand Management (TDM)	Transportation Demand Management focuses on how people make their transportation decisions, and facilitates greater usage of infrastructure for transit, ridesharing, walking, biking, and telework.
Vehicle Miles Traveled (VMT)	VMT is the amount of total miles traveled by motor vehicle that are generated over a population over a given timeframe (e.g., one year)
Very High Fire Hazard Severity Zone (VHFHSZ)	Fire Hazard Severity Zone maps are developed using a science-based and field-tested model that assigns hazard score based on factors that influences a fire's behavior and likelihood. VHFHSZ is the highest level of severity for Fire Hazard Severity Zones, according to the State Fire Marshall.
Weather	The state of the atmosphere over a short period of time (usually an hour or day), describing if it is hot or cold, wet or dry, calm or stormy, clear or cloudy, etc.
Zero-Emissions-Vehicle (ZEV)	A vehicle that never emits exhaust gas from the onboard source of power.
Zero Waste	The conservation of all resources by means of responsible production, consumption, reuse, and recovery of materials and packaging, without burning, and with no discharges to land, water, or air that threaten human health.

Acronyms and Abbreviations

Acronym/Abbreviation	Term
AB	Assembly Bill
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BAU	Business-as-usual
BayREN	Bay Area Regional Energy Network
BCDC	Bay Conservation and Development Commission
C&D	Construction & Demolition
CAAP	Climate Action and Adaptation Plan
CAPDash	Climate Action Planning Dashboard
CARB	California Air Resources Board
CARE	California Alternate Rates for Energy
CBSC	California Building Standards Commission
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH ₄	Methane
CBO	Community Based Organization
CORE	Clean Off-Road Equipment Voucher Incentive Project
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DOE	Department of Energy
EBMUD	East Bay Municipal Utility District
EPLAN	Community Outreach and Engagement Plan
EV	Electric Vehicle
ESCO	Energy Service Companies
ESPC	Energy Savings Performance Contracting
FEMA	Federal Emergency Management Agency
FERA	Family Electric Rate Assistance
FOPCW	Friends of Pinole Creek Watershed

Acronym/Abbreviation	Term
GHG	Greenhouse Gas
GWP	Global Warming Potential
HMP	Hazard Mitigation Plan
HVAC	Heating, Ventilation, and Air Conditioning
ICLEI	Local Governments for Sustainability
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilowatt hour
LHMP	Local Hazard Mitigation Plan
MCE	Marin Clean Energy
MERV	Minimum Efficiency Reporting Values
MOU	Memorandum of Understanding
MTC	Metropolitan Transportation Commission
MT	Metric Tons
MT CO ₂ e	Metric tons carbon dioxide equivalent
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
N ₂ O	Nitrous Oxide
PCTV	Pinole Community Television
PG&E	Pacific Gas & Electric
PV	Photovoltaic
RCP	Representative Concentration Pathway
RHNA	Regional Housing Needs Allocation
RPS	Renewable Portfolio Standard
SB	Senate Bill
T&D	Transmission and Distribution
TDM	Transportation Demand Management
USGBC	U.S. Green Building Council
VMT	Vehicle Miles Traveled
VHFHSZ	Very High Fire Hazard Severity Zone
WWTP	Wastewater Treatment Plant
WestCAT	Western Contra Costa Transit
ZEV	Zero-Emissions-Vehicle

Table of Contents

Chapter 1. Introduction	1
Chapter 2. Emissions and Targets	11
Chapter 3. Climate Action Measures	19
Chapter 4. Adaptation	101
Chapter 5. Implementation and Monitoring	125

Appendices

Appendix A: Inventory, Forecast, and Targets

Appendix B: Regulatory Background

Appendix C: Measure Substantial Evidence

Appendix D: CEQA Documentation

Appendix E: CEQA GHG Emissions Thresholds
and Guidance

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Introduction

“Pinole the little City that could; can be a guiding light for the region.”

— Pinole Community Member





San Pablo Avenue, Pinole

Overview of Pinole

The City of Pinole is in the San Francisco Bay Area, on the shores of San Pablo Bay in West Contra Costa County. Interstate-80 (I-80), which traverses the City, connects the San Francisco/Oakland metropolitan area with Sacramento and beyond. The City of Pinole has a land area of more than four square miles; much of the land has gently rolling hills with steeper hills paralleling the north and south. The elevation in the City ranges from sea level² to 500 feet above sea level. Pinole's existing land use pattern is generally a mix of residential neighborhoods and commercial and business centers combined with parks and open spaces.³

Our community is diverse, with approximately 26 percent of the population identifying as Hispanic or Latino, over 24 percent identifying as Asian, and nearly 12 percent identifying as Black or African American. Additionally, approximately 37 percent of the population

identified as White, which is significantly less than the County (approximately 63 percent) and San Francisco (approximately 42 percent).⁴ In Pinole, the average commute time is higher than the national average of 26.8 minutes and approximately 8 percent of the City's workforce have "super commutes," which are more than 90 minutes (see Figure 1). For City staff, the average commute time is anticipated to be similar, with an average one-way trip of 21.1 miles, based on an employee commute survey that was completed as part of the GHG emissions inventory (Appendix A). Energy (natural gas and electricity) is provided by Pacific Gas & Electric (PG&E); water is provided to the City by East Bay Municipal Utilities District; and wastewater is treated by the Pinole-Hercules Treatment Plant and the West County Wastewater Treatment Plant. Waste in the City is managed by Republic Services, which picks up landfill waste, recyclables, and organic waste at residences and businesses throughout the community.

² https://www.ci.pinole.ca.us/residents/visit_pinole

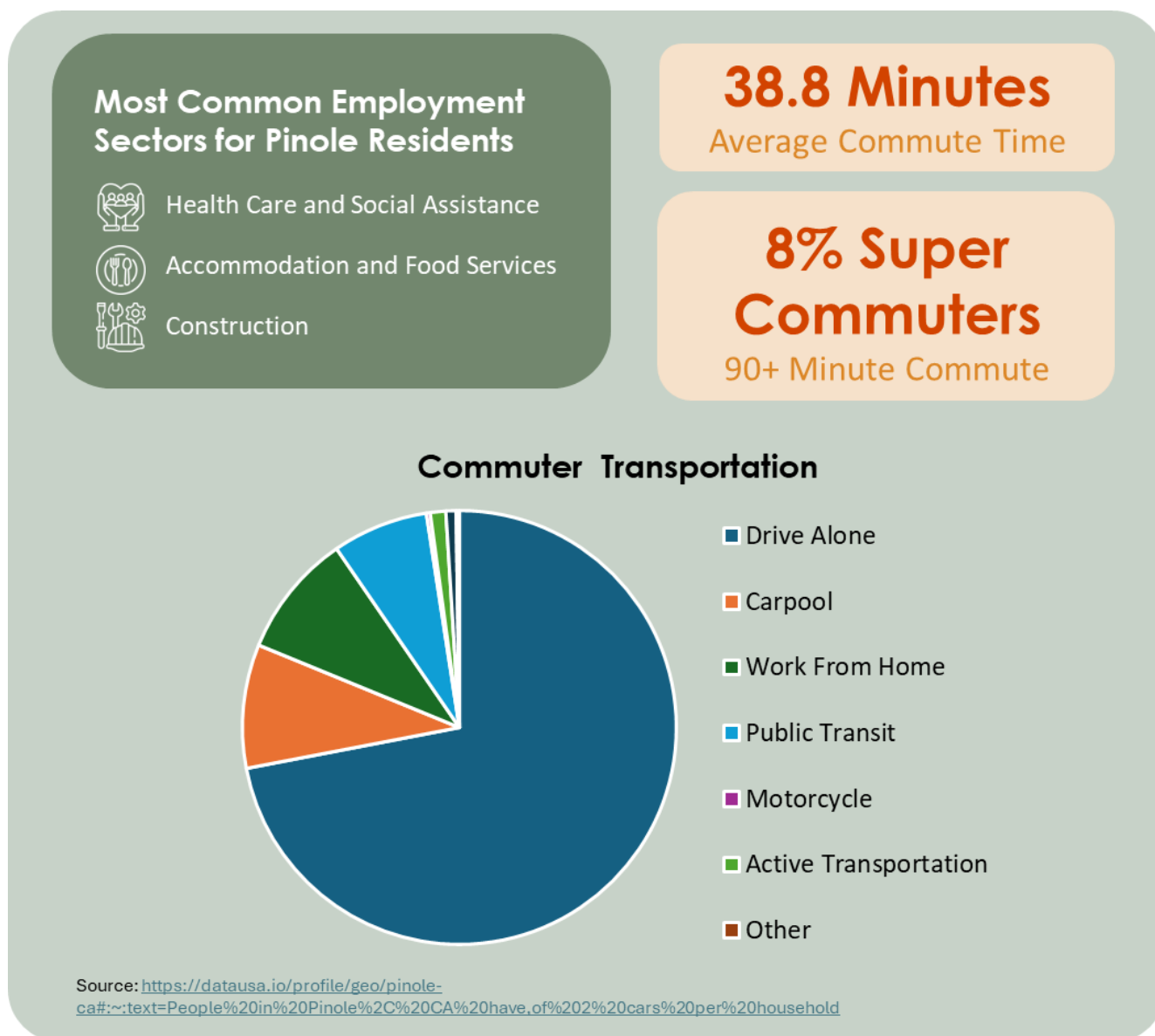
³ https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf

⁴ https://www.ci.pinole.ca.us/residents/visit_pinole

https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf



Figure 1 Pinole Employment and Commuter Statistics



Purpose of the CAAP

The primary purpose of the City of Pinole's Climate Action and Adaptation Plan (CAAP) is to chart a clear path to reduce greenhouse gas (GHG) emissions and become more resilient to our changing climate. The City recognizes the need for comprehensive, fiscally responsible solutions while employing actionable, measurable, and time-bound metrics to gauge its success. The CAAP is founded on a thorough analysis of communitywide systems, including an updated GHG emissions inventory (2017) and social vulnerability assessment, and builds upon the City's existing sustainability efforts (discussed below under *Legislative History and Past Climate Action in Pinole* and summarized in Figure 5) to establish a series of measures and actions that guide the City towards long-term GHG emissions reduction and resilience goals. The results of the updated GHG emissions inventory are included in Chapter 2 and the climate vulnerabilities are discussed in Chapter 4, with more technical details on the emissions quantification provided in Appendix A.



City of Pinole Climate Action and Adaptation Plan (CAAP)

This CAAP is Pinole's roadmap to achieving the City's goal of 40 percent below 1990 levels by 2030 and demonstrates substantial progress towards achieving carbon neutrality by 2045. The CAAP also includes a framework for implementation and monitoring emission reduction activities, and further promotes adaptation and resilience of the community. The plan is intended to be a qualified climate action plan and meets the requirements of the CEQA Section 15183.5(b).

CAAP Vision

Climate change and its associated impacts are real and are already being felt locally. Projections indicate that these effects will only intensify in the current century unless there is a global effort to bring about significant change and reduce GHG emissions collectively (see Chapter 4 for a summary of future climate impacts in the City). Therefore, this CAAP seeks to promote policies and practices that safeguard the environment, enhance the quality of life for residents in Pinole, include equity in decision-making processes, strengthen the local economy, and continue to reduce the City's emissions in line with California's goals while improving our ability to adapt to the changing climate. To achieve these goals, the plan provides a set of measures for Pinole to mitigate emissions and adapt to climate change risks, establish a more resilient community, and lead the way toward a more sustainable future. The key components of a sustainable future include:

- **Reducing Greenhouse Gas Emissions:** Fostering renewable energy sources, implementing innovative green technologies, sustainable urban planning, and thoughtful, realistic alignment with the state's goals to reach carbon neutrality by 2045.

- **Adapting to Climate Change:** Developing resilient infrastructure, implementing effective resource conservation and management strategies, enhancing early warning systems, and prioritizing the conservation and restoration of ecosystems to bolster natural climate resilience.
- **Social Equity:** Protecting the most vulnerable from the impacts of climate change, including small and/or minority-owned businesses and disadvantaged communities that are most affected by a combination of economic, health, and environmental burdens, to create a healthier and more resilient City.
- **Economic Resilience:** Enhancing the City's ability to withstand unpredictable climate emergencies, supporting reliable and affordable utilities, creating clean energy jobs, and promoting resource conservation.
- **High-Quality of Life:** Improving the overall quality of life for all community members by fostering a shared and collaborative civic identity that prioritizes sustainability, safety, security, and diversity.
- **Community Involvement:** Encouraging all Pinole residents, business owners, and interested parties to actively participate in the climate planning process, providing an opportunity for those interested and invested to influence decision-making in the City. The collective goal is to engage in activities that minimize potential environmental, social, and economic impacts of climate change.
- **Collaborative Partnerships:** Collaborating with interested parties who can support others in the community in making science-guided decisions aimed at reducing emissions while creating a more sustainable, resilient, and equitable community.



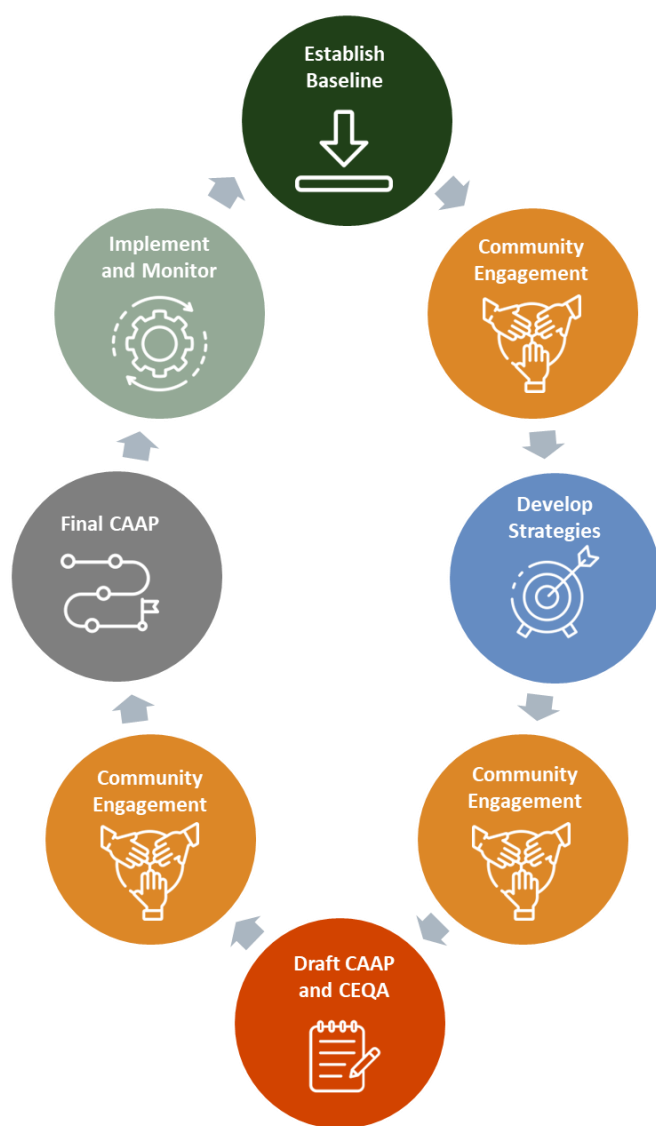
CAAP Development Process

The CAAP was thoughtfully crafted through inclusive partnerships that involved collaboration with the community members, interested parties, utility providers, and others, led by the City of Pinole. A diagram of the CAAP development process is shown in Figure 2. On October 19th, 2021, the City Council adopted a resolution that declared a Climate Emergency. This resolution

acknowledges the disastrous effects that climate change threatens to have on the City's public health, economy, infrastructure, and overall well-being. The CAAP is designed to reduce these effects and prepare the community for flooding, sea level rise, water scarcity, extreme heat events, and wildfires.

As part of the CAAP development process the City completed a Community Outreach and Engagement Plan (EPLAN) to guide the community engagement process to garner significant feedback from the City's diverse communities in the development of the plan. As part of the EPLAN, community outreach materials were provided in English as well as Spanish, Tagalog, and traditional Chinese, upon request, to provide easy access to residents and community groups.

Figure 2 CAAP Development Process



Inclusive Engagement

The CAAP development process began as the world emerged from the COVID-19 pandemic, which amplified our need to act now on climate action, recognizing the interconnected challenges posed by both crises. The pandemic also illuminated how disasters disproportionately affect disadvantaged and vulnerable communities.⁵ On the other hand, the global response to the pandemic demonstrated how it's possible to work together to solve the problems that impact us all. We believe that it is critical that we collectively build a resilient future that we are proud of with cleaner air, weatherized homes and businesses, safer public spaces, secure jobs, and reliable, consistent access to resources. Therefore, inclusive engagement was instrumental in the development of this CAAP so that the voices of the community are reflected in our long-range plan.

⁵ According to the California Public Utilities Commission (CPUC), disadvantaged communities "are areas which suffer disproportionately from a combination of economic, health, and environmental burdens (e.g., poverty, high unemployment, air and water pollution, presence of hazardous wastes, as well as higher rates of asthma and heart disease)." <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/disadvantaged-communities#:~:text=Disadvantaged%20communities%20refers%20to%20the,of%20asthma%20and%20heart%20disease.>



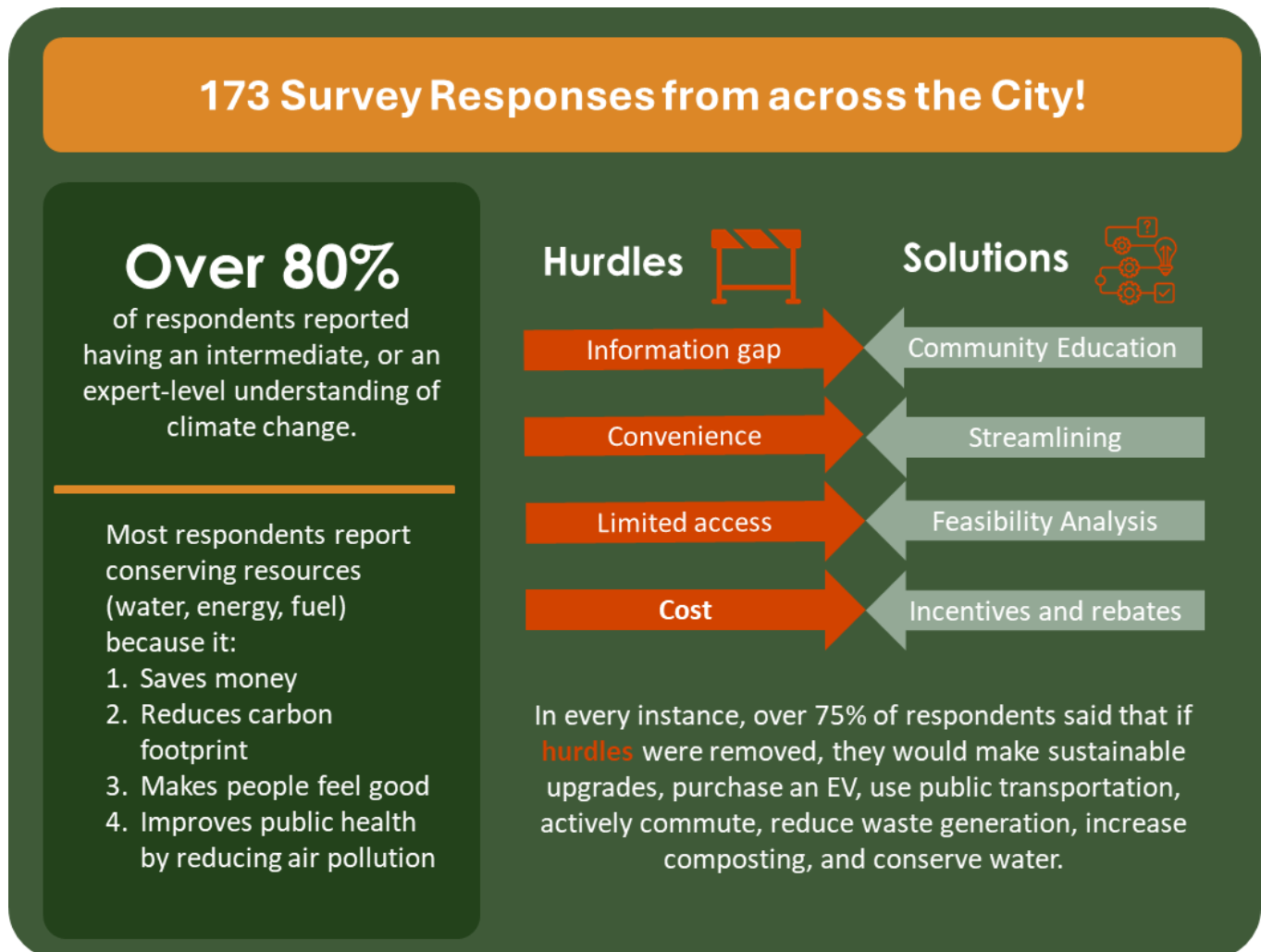
City of Pinole Climate Action and Adaptation Plan (CAAP)

To launch the inclusive engagement process that informed the development of the CAAP, two surveys were released on the City's website (full and mini versions to accommodate people's availability). Survey responses were provided by residents, employees, business owners, landlords, landowners, Civic Leaders, residents who live in Contra Costa County, and employees who work in Contra Costa County. Key survey results are summarized in Figure 3.

In tandem, the City hosted an Open House event where the main hall of the Senior Center was transformed into a climate action think tank. These activities launched a year-long outreach campaign that included participation in community events (e.g., Community Pop-up

at the City's Coastal Cleanup event), development and maintenance of a CAAP webpage, development and coordination of outreach materials, and release of the City of Pinole Strategy Prioritization game. During the first Open House event and survey, information was collected on the community's top priorities related to climate action, the associated co-benefits, and the vision for a more sustainable and resilient City. During the CAAP development process, we straddled the digital divide by providing both in-person and virtual options at various times, days of the week, and locations throughout the City, including events that invited families to participate with inclusive activities for youth to participate. Additionally, public agencies from

Figure 3 Summarized Survey Results





City of Pinole Climate Action and Adaptation Plan (CAAP)

different sectors were present to introduce the community to the types of measures and actions that may be seen in the CAAP.

Table 1 and Figure 4 detail the outreach events and the locations in which they occurred. As part of the CAAP campaign, a logo was developed, as well as campaign materials that were dispersed and used throughout the City. Postcards were mailed to every household in Pinole, and we hosted the City's first Earth Month that was planned around the CAAP sectors.

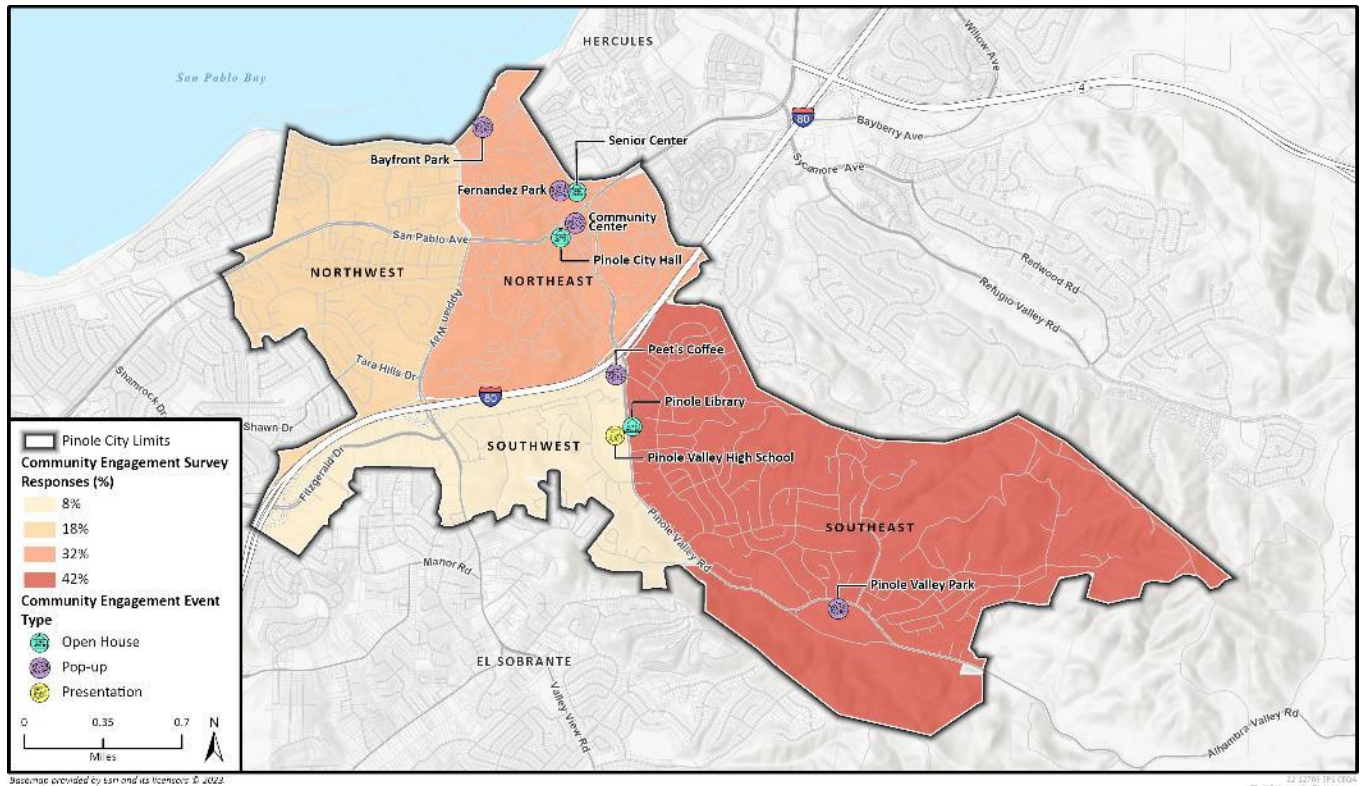
In addition to the community engagement that took place throughout the CAAP development process, the City also met internally multiple

times with staff from each department (e.g., City Manager's Office, Community Development, Community Services, Public Works, and Police Department) to identify any additional opportunities, establish the timeline and lead departments for implementation, and confirm that all initiatives were realistic and implementable in the long-term. Additionally, Pinole hosted the County's Sustainability Coordinator to talk specifically about the CAAP from a City staff perspective.

Table 1 CAAP-Related Community Outreach and Engagement

Event	Purpose	Location
Coastal Clean-up Day 2022	Introduce Plan/ Register CAAP subscribers	Bayfront Park
Dumpster Day 2022	Introduce Plan/ Register CAAP subscribers	Pinole Valley Park
National Night Out 2022	Introduce Plan/ Register CAAP subscribers	Fernandez Park
Survey	Receive preliminary feedback on areas of interest and potential hurdles for climate initiatives	Online
Community Open House	Introduce Plan	Senior Center
Farmer's Market	Gather public feedback to inform draft measures	Community Corner
Earth Team presentation	Introduce CAAP and its purpose to Earth Team	Pinole Valley High School
Stakeholder Interviews	Gathering feedback to inform the Plan from Civic, Business, and Community Focus Groups	Virtual
Earth Walk	Register subscribers and publicize workshop	Fernandez Park
Crockett's Shoreline Festival	Register subscribers and publicize workshop	City of Crockett
Pinole Car Show	Register subscribers and publicize workshop	Fernandez Park
Dumpster Day 2023	Publicize workshop	Pinole Valley Park
Earth Team presentation	Publicize workshop and CAAP information	Pinole Valley High School
Peet's Patio	Publicize workshop	Peet's Coffee
National Night Out 2023	Publicize workshop	Fernandez Park
Community Workshop	Review and provide feedback on draft measure and actions	Senior Center City Hall Pinole Library
Strategy Prioritization game	Review and provide feedback on draft measure and actions	Online

Figure 4 CAAP Community Engagement Map



Pinole Carbon Prioritization Game



Community Members Playing the CAAP Carbon Prioritization Game

"This is a great initiative, and I really appreciate the opportunity [it] provides for our town."

– Pinole Community Member

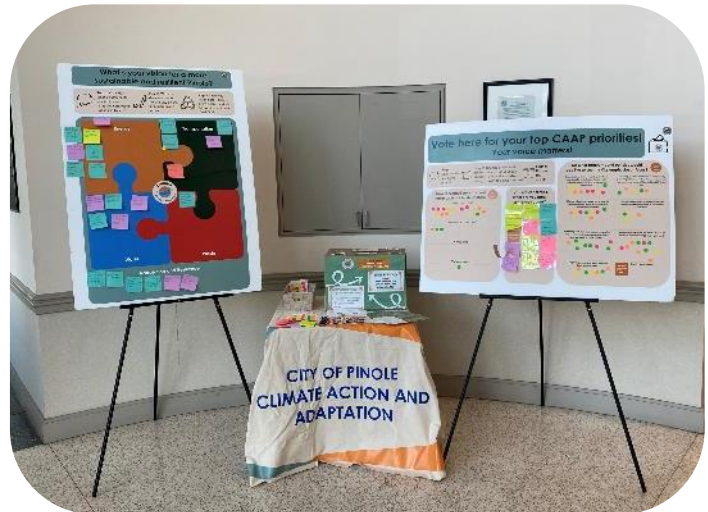




Pinole CAAP Open House



CAAP Visioning Board



Ongoing Feedback Collection Opportunity at City Hall



Upcycled Arts and Crafts

"I think citizen involvement in the CAAP process is a good opportunity both for critical information gathering but also involving residents and businesses in climate action and solutions."

— Pinole Community Member



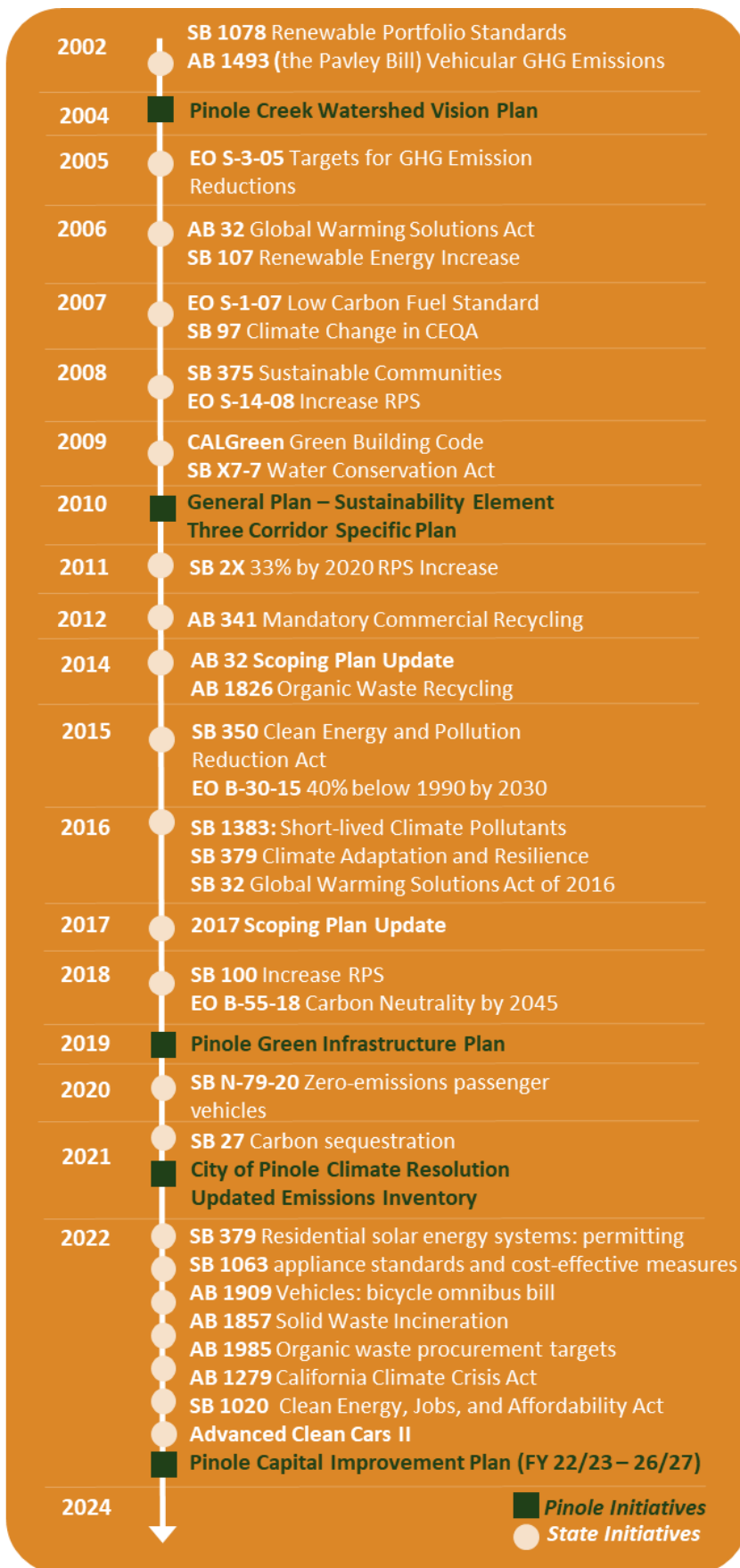
Community Pop-up Events



Legislative History and Past Climate Action in Pinole

California has established ambitious legislation and policies that aim to reduce and ultimately eliminate GHG emissions. The primary GHG legislation that has been adopted are Assembly Bill (AB) 32, Senate Bill (SB) 32, and AB 1279. To meet the state's 2045 goal of carbon neutrality, the California Air Resources Board (CARB) recommends that local agencies establish long-term targets that align with AB 1279. Specifically, CARB guidance calls for jurisdictions to first strive to exceed the SB 32 goals of reducing GHG emissions 40 percent below 1990 levels, while establishing a policy framework to work towards the long-term target of carbon neutrality by 2045. Carbon neutrality refers to emitting net zero carbon emissions, which can be achieved by either eliminating all GHG emissions, or balancing carbon emissions with carbon removal and sequestration. See Figure 5 as well as Appendix B for more information on the most influential California legislation related to climate change. Figure 5 provides a summary of the major state legislation as well as the City's complimentary or supplemental initiatives, plans, and policies. It is anticipated that the City will adopt the additional following plans in 2024 that are relevant: Active Transportation Plan, Health & Environmental Justice Element, and Updated Safety Element, and Parks Master Plan.

Figure 5 Regulatory Timeline



Emissions and Targets

“So happy the City is aware and
acting on climate change!”

– Pinole Community Member



Climate Change Background

Climate change is caused by the addition of excess GHGs in the atmosphere, trapping heat near the Earth's surface. This raises the global average temperatures through what is referred to as the greenhouse effect. The increase in average temperatures across the globe affects sea level rise, precipitation patterns, the severity of wildfires, the prevalence of extreme heat events, water supply, and ocean temperatures and chemistry.⁶ According to the Intergovernmental Panel on Climate Change (IPCC), GHGs are now higher than they have been in the past 400,000 years, raising carbon dioxide levels from 280 parts per million to 410 parts per million in the last 150 years.⁷

The dramatic increase in GHGs is attributed to human activities, beginning with the industrial revolution in the 1800s.⁸ As such, anthropogenic (human) caused climate change is well-understood, prompting local, state, federal, and global governments and communities to reduce and mitigate the impacts of increasing GHG emissions.⁹ Today, the need for urgent and ambitious action has been further reinforced by recent findings from the European Union's Copernicus Climate Change Service. The study found the year 2023 was the hottest on record, with the global average temperature being more than 1.4 degrees Celsius above pre-industrial levels. This increase is marginally under the 1.5-degree threshold in the Paris Agreement, and beyond what scientists say humans and ecosystems will struggle to adapt to.¹⁰

Inventory Overview

A GHG emissions inventory quantifies and categorizes the various carbon emission sources to guide the development of a CAAP. The City of Pinole updated the 2017 GHG emissions inventory from community-wide activities within the City (Community GHG Inventory) and completed a 2021 GHG emissions inventory for municipal buildings and operations (Municipal GHG Inventory). The Community GHG Inventory estimates GHG emissions from residents and businesses within the City, including GHG emissions from municipal buildings and operations. It is important to note the Community GHG Inventory includes municipal GHG emissions as a subset within the inventory, while the Municipal GHG Inventory presents only the municipal GHG emissions. To allow for comparison among GHG emissions sources, all emissions are converted to the equivalent of one metric ton of carbon dioxide, or MT CO₂e.

1 MT CO₂e is the equivalent of using 113 gallons of gasoline or driving 2,564 miles in a standard combustion vehicle.

Source: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Pinole's GHG Emissions Inventories

2017 Community Inventory

The Community GHG Inventory was originally completed by East Bay Energy Watch in June 2020 according to the International Council for Local Environmental Initiatives' (ICLEI) U.S.

⁶ <https://climate.nasa.gov/extreme-weather/>

⁷ https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

⁸ <https://www.ipcc.ch/sr15/chapter/spm/>

⁹ https://climate.nasa.gov/climate_resources/24/graphic-the-relentless-rise-of-carbon-dioxide/

¹⁰ <https://www.cnn.com/2023/12/06/climate/2023-hottest-year-climate/index.html#:~:text=The%20analysis%20from%20the%20European,and%20ecosystems%20will%20struggle%20to>

<https://www.cnn.com/2023/12/06/climate/2023-hottest-year-climate/index.html#:~:text=The%20analysis%20from%20the%20European,and%20ecosystems%20will%20struggle%20to>



City of Pinole Climate Action and Adaptation Plan (CAAP)

Community Protocol for Accounting and Reporting Greenhouse Gas Emissions, Version 1.2. The Community GHG Inventory was updated in 2023 with the most recent available data sources, emission factors, and Global Warming Potentials (GWP) from IPCC Fifth Assessment Report (AR5) and focuses on sources within each sector that are under the jurisdictional control of the City. In 2017, the Pinole community (including municipal operations) emitted approximately 72,273 MT CO₂e.

The 2017 Community GHG inventory is organized by four primary sectors as shown in Table 2 and Figure 6. The transportation sector was the largest source of GHG emissions, generating approximately 35,718 MT CO₂e, or 49 percent of the total 2017 community emissions. The transportation sector includes passenger and commercial vehicles, public

transit, and offroad vehicles. The energy sector, including electricity and natural gas used within residential and nonresidential buildings, was the second largest source of GHG emissions, generating approximately 33,088 MT CO₂e, or 46 percent of the total 2017 community GHG emissions.

Nonresidential electricity and natural gas in this sector include commercial electricity and natural gas as well as direct access electricity.¹¹ The waste sector, including the processing and decomposition of waste at landfills in various locations, resulted in 3,300 MT CO₂e or five percent of the City's GHG emissions while the conveyance, delivery, and treatment of water (63 MT CO₂e) and treatment of wastewater (103 MT CO₂e) resulted in the remaining GHG emissions. Other sectors were excluded from this inventory because they are not under the jurisdictional control of the City.

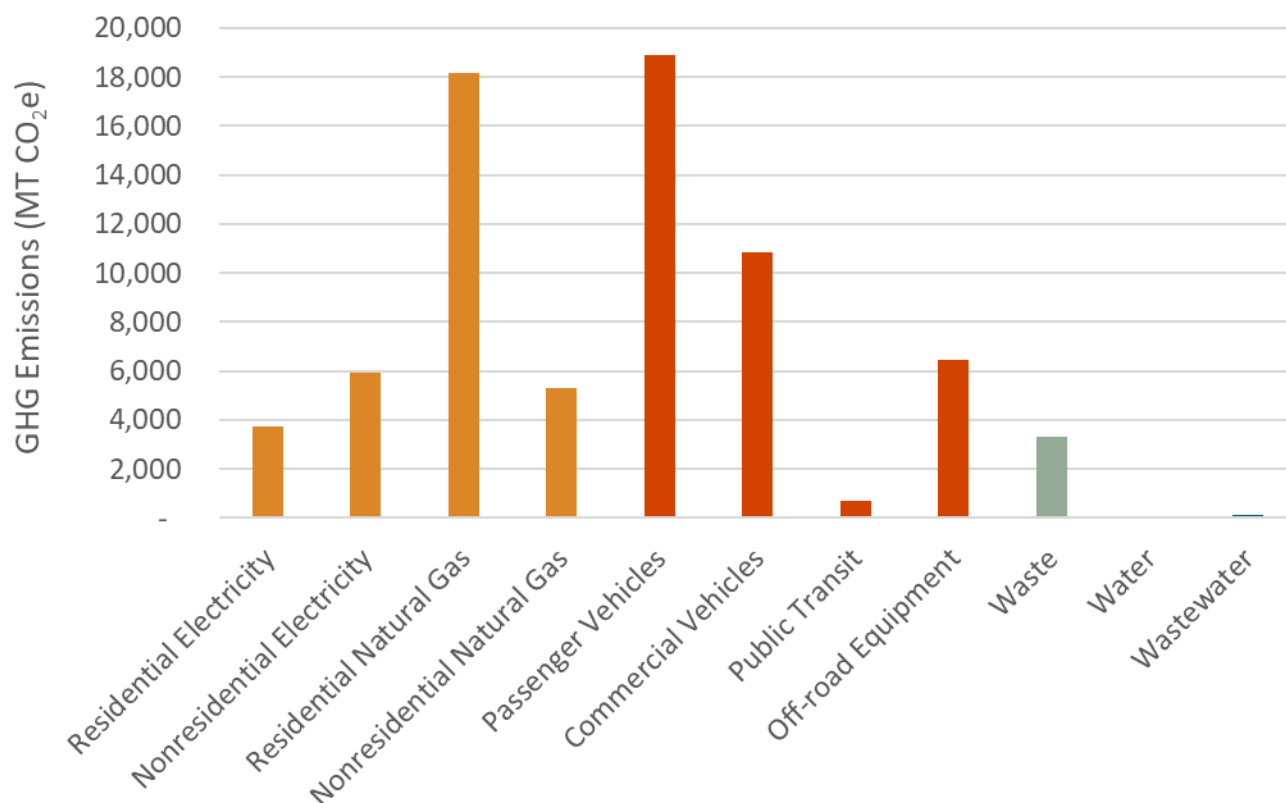
Table 2 City of Pinole Community GHG Emissions (2017)

Sector and Subsector	GHG Emissions (MT CO ₂ e)	Percent of Emissions
Energy	33,088	46%
Residential Electricity	3,738	5%
Nonresidential Electricity	5,918	8%
Residential Natural Gas	18,140	25%
Nonresidential Natural Gas	5,291	7%
Transportation	35,718	49%
Passenger Vehicles	18,913	26%
Commercial Vehicles	10,868	15%
Public Transit (buses and BART)	701	1%
Off-road Equipment	5,236	7%
Waste	3,300	5%
Water and Wastewater	166	<1%
Water	63	<1%
Wastewater	103	<1%
Total Emissions	72,273	100%

Note: Values may not add up due to rounding.

¹¹ Direct access electricity includes customers who purchase electricity from a competitive provider or non-utility entity. While direct access electricity may include electricity purchased from industrial customers, nonresidential energy excludes industrial sources because no industrial electricity or natural gas consumption was reported by the utility (Pacific Gas & Electric) in 2017.

Figure 6 City of Pinole Community GHG Emissions (2017)



2021 Municipal Inventory

The Municipal GHG Inventory was prepared with the best available data sources, emission factors, and IPCC AR5 GWP's, and was calculated based on ICLEI's Local Government Operations Protocol, Version 1.1. In 2021, Pinole's GHG emissions associated with municipal operations totaled 2,205 MT CO₂e.

The 2021 Municipal GHG Inventory is also organized by four primary sectors as shown in Table 3 and Figure 7. These GHG emissions are generated by the regular activities associated with running the municipality and can be directly influenced by the City. The transportation sector, including GHG emissions from the vehicle fleet, employee commute, and business travel, was the largest source of GHG emissions, generating approximately 1,136 MT CO₂e, or 52 percent of total 2021 municipal GHG emissions. The energy sector, including GHG emissions from the City's electricity and natural gas use, was the second largest source of emissions,

generating approximately 491 MT CO₂e, or 22 percent of total 2021 GHG emissions. The solid waste sector generated 356 MT CO₂e representing 16 percent of total 2021 emissions while the remaining ten percent of municipal GHG emissions were generated from water use and wastewater generation (223 MT CO₂e) by the City's operations. Other sectors were excluded from this inventory because they are not under the jurisdictional control of the City.

Appendix A provides further details on the Community GHG Inventory update and Municipal GHG Inventory preparation. Additionally, the Community GHG Inventory and Municipal GHG Inventory results can be viewed on the City's CAAP Dashboard.¹² This dashboard will be regularly updated with new inventories to track changes in communitywide and municipal GHG emissions over time.

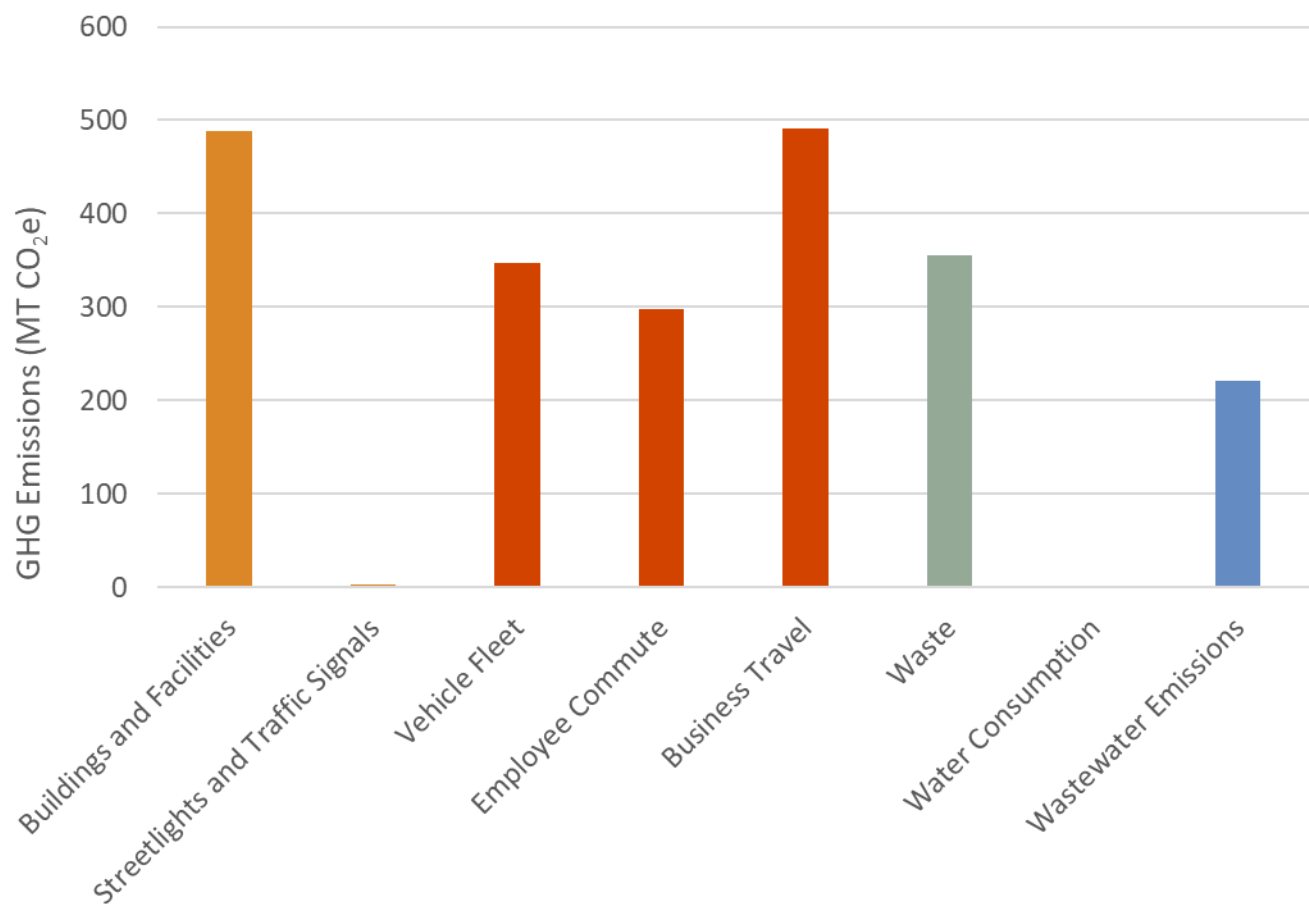
¹² The CAAP Dashboard can be accessed at: <https://cap.rinconconsultants.com/Pinole>



Table 3 City of Pinole Municipal GHG Emissions (2021)

Sector and Subsector	GHG Emissions (MT CO ₂ e)	Percent of Emissions
Energy	491	22%
Buildings and Facilities	488	22%
Streetlights and Traffic Signals	3	<1%
Transportation	1,136	52%
Vehicle Fleet	347	16%
Employee Commute	298	14%
Business Travel	491	22%
Waste	356	16%
Water and Wastewater	223	10%
Water Consumption	1	<1%
Wastewater Emissions	221	10%
Total Emissions	2,205	100%

Figure 7 City of Pinole Municipal GHG Emissions (2021)





Pinole's GHG Emissions Forecast

GHG emissions forecasts, demonstrating how the City's GHG emissions are expected to change in the future, have been generated based on the 2017 Community GHG Inventory. The future emissions are projected based on the continuation of current activities, projected population, and job growth over time to help identify actions that must be taken now to meet future targets. GHG emissions are forecasted through the years 2025, 2030, 2035, 2040, and 2045 according to two scenarios: a business-as-usual scenario and an adjusted scenario.

Business-as-Usual Forecast

The business-as-usual scenario provides a forecast of how future GHG emissions would change if current activities continued as they did in 2017 and growth were to occur without local policies and actions to reduce GHG emissions. The forecast is based on growth trends projected in the City's population, employment, and housing according to the Association of Bay Area Governments' Plan Bay Area 2050 which accounts for the number of new homes needed in the Bay Area as part of the Regional Housing Needs Allocation (RHNA). Table 4 shows the demographic projections used for the forecast. While most sectors are forecasted using the demographic metrics, on-road and off-road transportation were forecasted using growth projections from CARB's on-road and off-road transportation emission inventory modeling tools (EMFAC2021 and OFFROAD2021). As shown in Table 5, the City's business-as-usual GHG emissions are projected to increase to 79,501 MT CO₂e in 2025, 84,515 MT CO₂e in 2030, 88,764 MT CO₂e in 2035, 93,183 MT CO₂e in 2040, and 97,772 MT CO₂e in 2045. For additional information on the business-as-usual forecast as well as the demographic metric calculations, see Appendix A.

Table 4 Business-as-Usual Forecast Demographic Metrics by Year

Demographic	2017	2025	2030	2035	2040	2045
Population	19,663	21,718	23,110	24,592	26,168	27,845
Employment	7,970	8,963	9,645	10,379	11,168	12,018
Household	6,901	7,431	7,783	8,151	8,536	8,940

Notes: Demographic metrics were calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050.

Adjusted Forecast

Several state regulations have been adopted that will reduce future local GHG emissions. These regulations have been incorporated into an adjusted forecast to account for future GHG emissions reductions resulting from state efforts and investments. Key state legislation included in the adjusted forecast include:

- Renewable Portfolio Standard (Senate Bill 100 and Senate Bill 1020) which requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2026, 60 percent by 2030, 90 percent by 2035, 95 percent by 2040, and 100 percent by 2045. The increase in renewable energy resources reduces the GHG-intensity of electricity.



- Building Energy Efficiency Standards (Title 24, Part 6 of the California Code of Regulations)¹³ which sets standards for energy-efficient technologies and methods in new buildings to reduce electricity and natural gas consumption in new buildings and increase the use of renewable electricity.
- Transportation legislation including the Advanced Clean Cars Program (introduced by CARB in 2012),¹⁴ Advanced Clean Truck regulation, and Innovative Clean Transit regulation which work together to increase the fuel efficiency of fossil-fuel powered on-road vehicles and increase the share of zero-emission vehicles on the road.

In addition to the reductions from state legislation, the adjusted forecast also includes emission reductions associated with the City's

transition from Pacific Gas and Electric-provided electricity to the lower-emissions electricity options provided by Marin Clean Energy (MCE) which occurred after the inventory year in April 2018. The resulting adjusted forecast provides the level of GHG emissions reductions the City will be responsible for after state regulations and existing local actions (i.e., the switch to MCE) have been implemented (and before any additional contribution from local policies or actions). As shown in Table 5, the City's adjusted business-as-usual emissions are projected to increase to 69,558 MT CO₂e in 2025, 68,902 MT CO₂e in 2030, 67,403 MT CO₂e in 2035, 68,262 MT CO₂e in 2040, and 69,901 MT CO₂e in 2045. Appendix A provides further details on the specific state regulations incorporated into the adjusted forecast and quantified legislative reductions to the business-as-usual forecast.

Table 5 Forecasted Community GHG Emissions

Community GHG Emissions (MT CO ₂ e)	2025	2030	2035	2040	2045
Business-as-Usual	79,501	84,515	88,764	93,183	97,772
Reductions from State Legislation and MCE	9,943	15,613	21,361	24,921	27,871
Adjusted Forecast	69,558	68,902	67,403	68,262	69,901

Pinole's GHG Emissions Targets

Emission targets are quantitative goals that will further the City's ability to measure emission reduction progress from the baseline scenarios and help guide implementation. The GHG targets were aligned with the state's GHG reduction goals for the years 2030 and 2045. The state's goals are developed relative to the

state's 1990 GHG emission baseline. As mentioned above, SB 32 establishes a goal to reduce statewide GHG by 40 percent below 1990 levels by 2030, and AB 1249 establishes the state's goal of achieving carbon neutrality by 2045. The City's GHG targets were developed relative to the 2017 Community GHG emissions by back-casting to 1990. This back-cast utilized the change in statewide GHG emissions between 2017 and 1990 as a proxy for change in Pinole during the same period.¹⁵

¹³ The 2019 Building Energy Efficiency Standards were incorporated into the adjusted scenario. The 2022 Building Energy Efficiency Standards were not incorporated due to lack of data made available by the State.

¹⁴ The latest Advanced Clean Cars II regulations expanded the Advanced Clean Cars Program but were not incorporated into the adjusted forecast because the state has not yet updated emissions models with the regulation's impacts.

¹⁵ The City of Pinole's 1990 GHG emissions were estimated to be 78,982 MT CO₂e based on a nine percent increase in state GHG emissions seen between 2017 and 1990. These calculations are consistent with guidance from the Governor's Office of Planning and Research's General Plan Guidelines. https://opr.ca.gov/docs/OPR_C8_final.pdf



City of Pinole Climate Action and Adaptation Plan (CAAP)

The estimated 1990 GHG emissions were then reduced by 40 percent to establish a 2030 target for the City and reduced to zero to establish a 2045 target for the City. The targets, established as follows, remain consistent with the State's 2030 and 2045 goals:

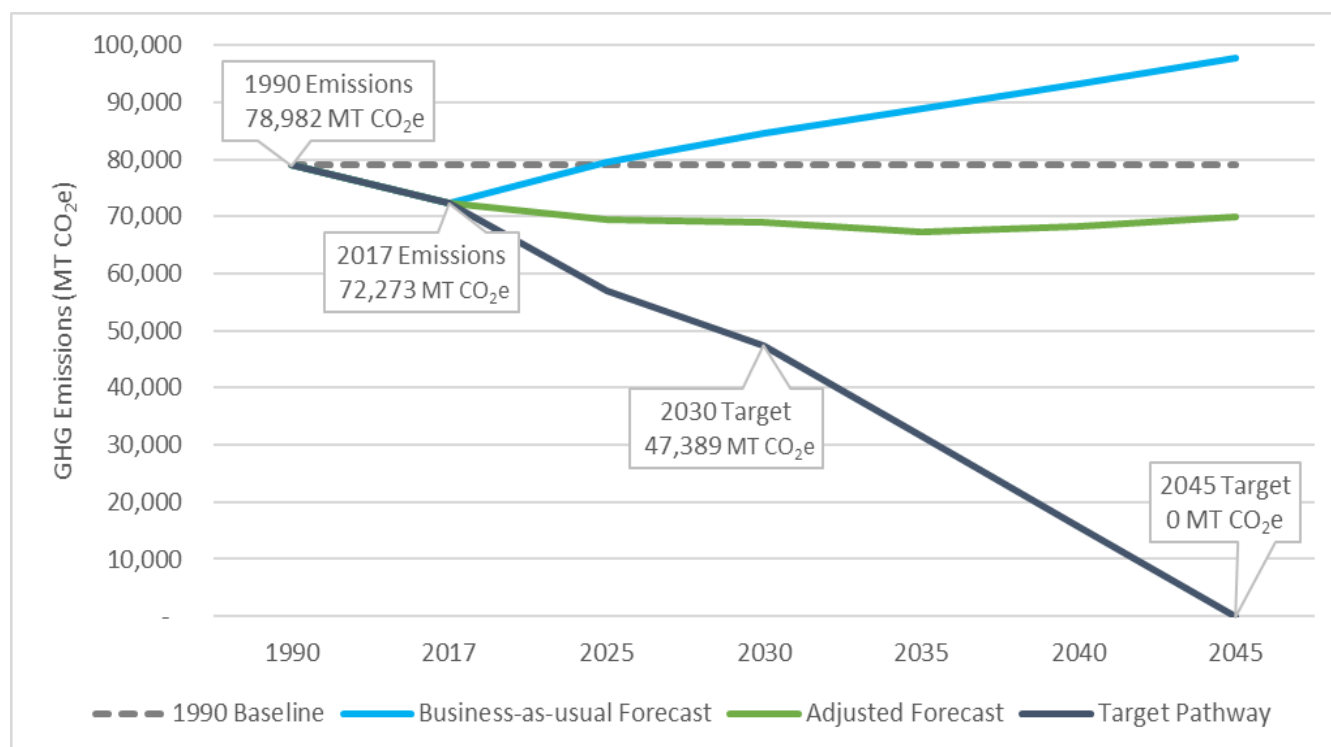
- Reduce GHG emissions to 47,389 MT CO₂e by 2030 (the SB 32 target year)
- Reduce GHG emissions to 0 MT CO₂e by 2045 (the AB 1249 target year)

After accounting for reductions that will result from state regulations, as shown in Table 6 and Figure 8, there remains a gap between Pinole's adjusted forecast and Pinole's targets. To meet the City's targets and align with state goals, Pinole will need to reduce communitywide GHG emissions by 21,512 MT CO₂e by 2030 and 69,901 MT CO₂e by 2045. These reductions will be achieved through implementation of measures and actions developed specifically for Pinole based on community engagement, best practices of similar and neighboring jurisdictions, and those recommended by state organizations and agencies. The emissions reduction measures and actions are presented in Chapter 3 and are quantified to identify their overall contribution to meeting the City's 2030 and 2045 GHG reduction targets. See Appendix A for more information on the forecast and targets.

Table 6 Community GHG Emission Reduction Targets and Gap Analysis

Emissions Forecast or Pathway	1990	2025	2030	2035	2040	2045
Mass Emissions Target Pathway						
Adjusted Forecast (MT CO ₂ e)	78,982	69,558	68,902	67,403	68,262	69,901
SB 32 Mass Emissions Target Pathway (MT CO ₂ e)	78,982	56,960	47,389	31,593	15,796	0
Remaining Emissions Gap (MT CO ₂ e)	N/A	12,598	21,512	35,810	52,466	69,901

Figure 8 City of Pinole Emissions Forecast



Climate Action Measures

“We are working to convert our home to high energy efficiency. We have solar, HVAC and a heat pump hot water heater, all resulting in savings and less dependance on natural gas.”

— Pinole Community Member



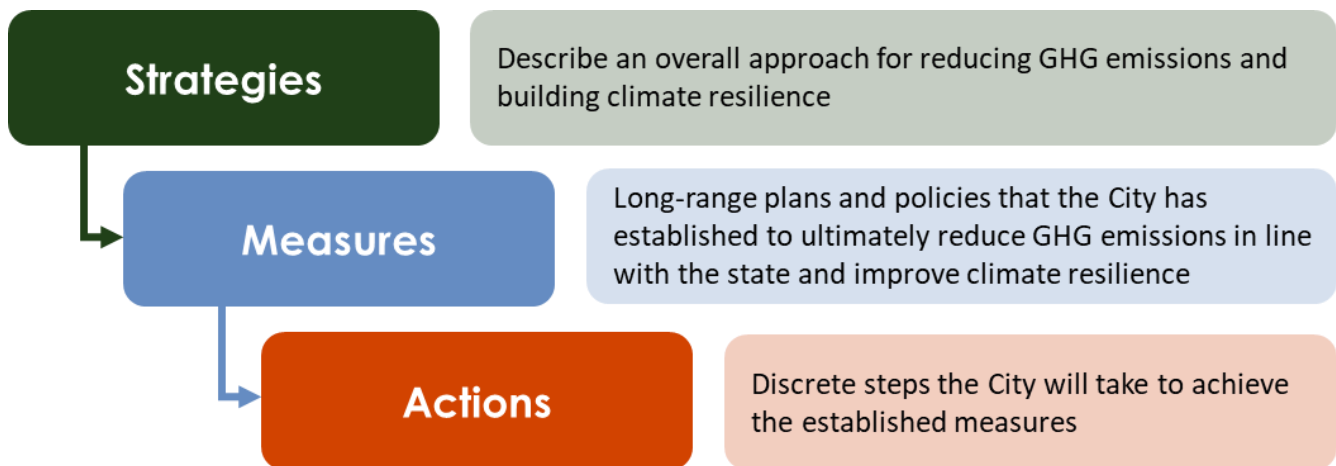
Climate Action and Adaptation Measures

The City of Pinole recognizes that achieving long-term sustainable change is essential to ensure that the community contributes its fair share towards reducing greenhouse gas emissions. This will help the state limit the impacts of climate change and enable the community to adapt to the local effects of climate change. To establish sustainable change, the community's efforts must be reasonable, resilient, and equity-driven. The City will lead by example and spearhead the community's climate efforts to implement the adopted climate action and adaptation measures outlined in this plan and maintain progress with regular monitoring and accountability.

The climate action and adaptation measures included in this CAAP are structured stepwise to provide a comprehensive path for implementation. As detailed in Figure 9, each

climate action and adaptation measure are positioned under a guiding strategy and contain a set of supporting actions for implementation. The measures were developed to both reduce GHG emissions and adapt to climate change impacts. Specifically, the plan's mitigation measures detail achievable and implementable GHG emissions reduction policies designed to achieve the City's GHG emissions reduction targets for 2030 (40 percent below 1990 levels) and provide substantial progress towards meeting the longer-term target of carbon neutrality by 2045. The plan's adaptation measures, which are discussed further in Chapter 4, are designed to increase Pinole's adaptive capacity and resilience to climate change impacts. Over time, the Plan will be reviewed, and additional actions will need to be added to make greater progress on the established measures, as appropriate. This CAAP serves as the City's first step in climate action planning and will continue to be refined.

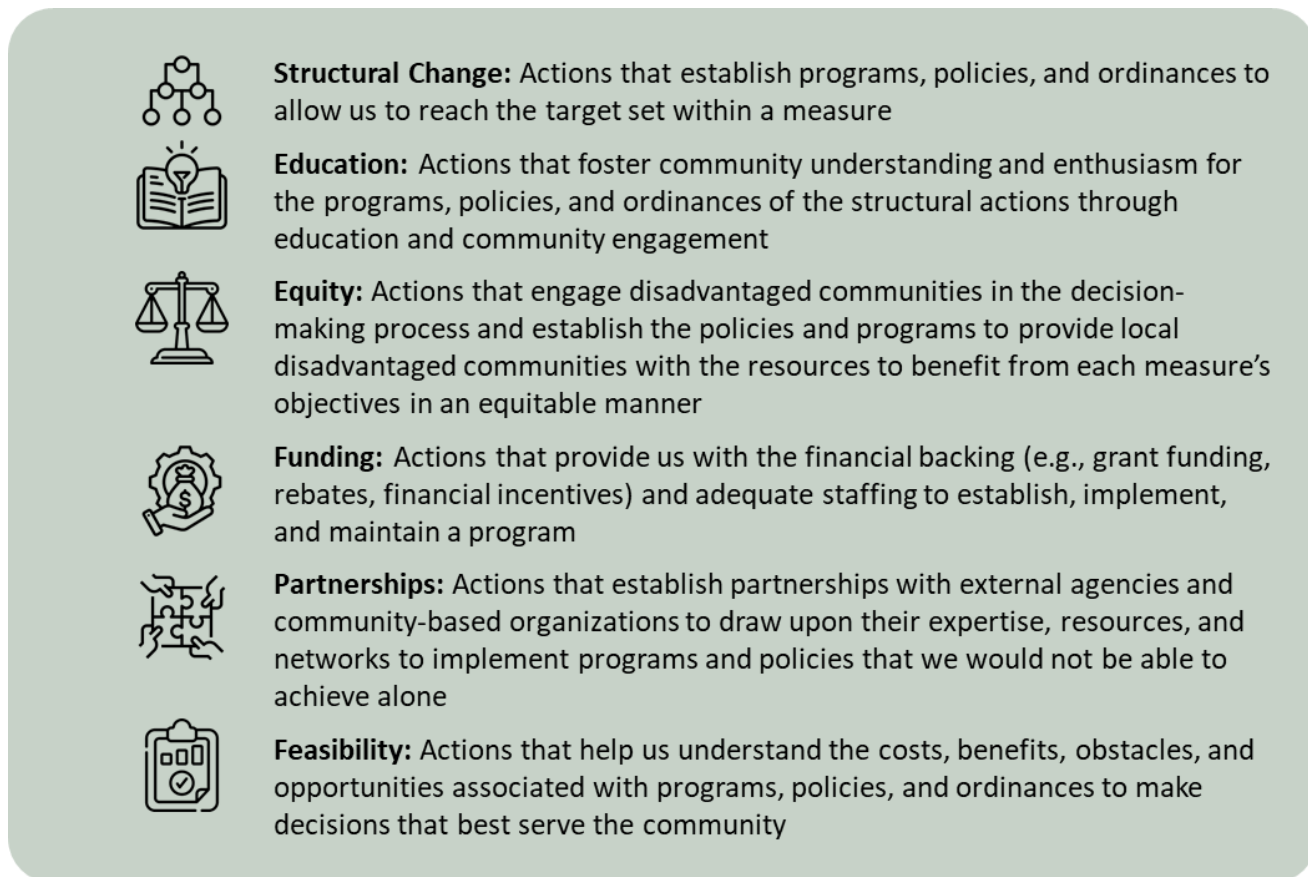
Figure 9 Climate Strategy Structure



Climate Policy Pillars

Reasonable, resilient, and equitable climate action and adaptation planning is built on key pillars that are essential for effective implementation. Pinole's six Climate Policy Pillars are focused on structural change, education, equity, funding, partnerships, and feasibility. During the climate action and adaptation measure development process, each measure was viewed through the lens of these Climate Policy Pillars to develop an implementable plan. Each pillar is detailed in Figure 10.

Figure 10 Pinole's Climate Policy Pillars



Cornerstone Measure

The Cornerstone Measure was designed to set the direction of the CAAP by embodying the spirit and character of Pinole and clearly illustrating how each Climate Policy Pillar is integrated into the measures. The rest of the climate action and adaptation measures are intended to align with the Cornerstone Measure, providing the most effective means for achieving the City's climate action and adaptation goals.

In construction, the cornerstone is often the first stone set, and all other stones are set in reference from that point, essentially determining the direction or position of the building. Similarly, the Cornerstone Goal (CR-1) sets the direction of our CAAP and intends to connect the CAAP and energize our

community around the opportunity to leverage climate action and adaptation implementation to make Pinole a center for green economic development and high-road jobs. From electrification retrofits and bicycle lane buildouts to carbon sequestration research and restoration projects, climate action and adaptation initiatives in Pinole will create new industries for the local economy and foster job growth. A study by the University of California, Los Angeles (UCLA) Luskin Center for Innovation found that 100,000 full-time equivalent jobs would be created across various sectors of the economy as the result of electrifying all of California's new and existing buildings by 2045.¹⁶

¹⁶ <https://innovation.luskin.ucla.edu/2019/11/13/move-to-all-electric-buildings-will-trigger-significant-demand-for-skilled-workers/>



City of Pinole Climate Action and Adaptation Plan (CAAP)

Similarly, in the waste and materials sector, the process of re-using materials was found to create 200 times as many jobs as sending those materials to landfills and incinerators.¹⁷ Centering these opportunities in Pinole will help create a prosperous, green economy that works to reduce GHG emissions in Pinole and adapt the community to climate impacts. It will also bring “high-road jobs” to Pinole residents – jobs that will provide Pinole residents family-sustaining wages, comprehensive benefits, and opportunities for continued career advancement.¹⁸

To leverage these economic opportunities for Pinole’s economy and residents, the Cornerstone Measure was designed in a stepwise manner to employ each Climate Policy Pillar as demonstrated in Figure 11. With each Climate Policy Pillar, CR-1

will make transformational change and engage the community. This will set the foundation for the rest of the measures in the CAAP to establish their own foundations to make reasonable, resilient, and equitable change in Pinole.

Mitigation Measures

Together, we developed a CAAP that includes a thoughtful list of measures and actions that collectively help us reach 2030 emissions reduction goals and put us on track to ultimately reach our longer-term goal of net neutrality for 2045. In addition to the mitigation measures, we have also prepared a list of adaptation measures (see Chapter 4) and measures that are specific to the City operations, which are summarized under municipal measures included below.

Figure 11 Cornerstone Measure Alignment with Pillars

Measure CR-1

Leverage the CAAP’s work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.

- Focuses on **Structural Change** by updating the City’s Economic Development Strategy to specifically attract green businesses and incentivizing developments that are dense, transit-rich, and connected to the active transportation network.
- Focuses on **Education** by offering residents training courses through a green workforce development program.
- Focuses on **Equity** by focusing the green workforce development program on members of disadvantaged and vulnerable communities in Pinole.
- Focuses on **Funding** by creating a Green Technology Incubator to provide green businesses access to funding.
- Focuses on **Partnerships** by working with the Contra Costa County Green Business Program and City staff to leverage their network and experience.
- Focuses on **Feasibility** by identifying climate change impacts that affect core industries and small businesses and assessing the existing broadband network in Pinole to optimize work-from-home rates.

¹⁷ <https://worldgbc.org/article/waste-hierarchy-cbre/>

¹⁸ https://www.usdn.org/uploads/cms/documents/workforce-guide_4.12.21_form.pdf



These measures provide a pathway for the City to lead by example by reducing emissions and increase adaptive capacity at City-owned and operated buildings to demonstrate that the initiatives included throughout this plan are feasible and achievable. In total, there are 21 mitigation measures related to building energy (five measures), transportation (six measures), solid waste (five measures), water and wastewater (two measures), and carbon sequestration (two measures), as well as the cornerstone measure discussed above. The Measures included under each mitigation and adaptation strategy are intended to pull in the same direction, providing the most effective means for achieving the GHG reductions to help the City achieve the 2030 target and establish the framework for the deep decarbonization needed to reach the 2045 target of carbon neutrality.

Measure Co-benefits

Climate action and adaptation measures were refined based on community feedback and input and designed to produce additional benefits beyond GHG emissions reduction and adaptation. These co-benefits were collectively prioritized by the community to align with their needs and preferences and will have the potential for long-term positive impacts throughout the community. The co-benefits identified for each measure include:



Greater access to healthy food



Cleaner air and water



Improved public and active transportation



Cost savings



More green spaces



Improved disaster preparedness, safety, and resilience



Improved economy/job creation

Measure Summary and GHG Emissions Reductions

Table 7 and 8 summarize the climate action measures developed and adopted by this CAAP. Table 7 also includes the GHG emission reduction potential of each mitigation measure. In total, the measures will reduce 21,585 MT CO₂e by 2030 and 68,746 MT CO₂e by 2045. Assuming the state legislation and the City's initial transition to MCE in the adjusted forecast reduce GHG emissions by 15,613 MT CO₂e by 2030, Pinole is on target to achieve the 2030 GHG reduction target and California's Senate Bill 32 goal. Similarly, assuming the state legislation of the adjusted forecast will reduce emissions by 27,871 MT CO₂e by 2045, Pinole will remain slightly above the net zero emissions target in 2045. However, these remaining emissions can be offset through established carbon sequestration measures, which can further assist Pinole to reach the community's goal of carbon neutrality. For further detail on the substantial evidence and calculation methods of the GHG emission reductions, refer to Appendix C.

It is important to note that while all measures benefit the community, they do not all result in equal GHG emissions reductions and some measures are considered "supportive," meaning that they do not directly result in GHG emissions reductions, although they support the overall goals of the CAAP. These measures do not have emissions reductions directly associated with implementing them, however, they may collectively increase the GHG emissions reduced.



City of Pinole Climate Action and Adaptation Plan (CAAP)

Table 7 Mitigation Strategies and Measures

ID	Measure Text	Reductions
Strategy CR: Cornerstone to Climate Action and Adaptation Planning		
CR-1	Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.	2030: N/A 2045: N/A
Strategy FL: Building Energy		
BE-1	Electrify 100% of new construction in the City in 2024.	2030: 1,509 2045: 5,962
BE-2	Electrify existing residential buildings to reduce natural gas consumption by 26% by 2030 and 100% by 2045.	2030: 4,778 2045: 19,273
BE-3	Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 18% by 2030 and 100% by 2045.	2030: 997 2045: 5,868
BE-4	Increase the number of accounts enrolled in MCE's Deep Green option to 95% communitywide by 2030.	2030: 3,200 2045: 0
BE-5	Increase generation and storage of local community-scale renewable energy.	2030: N/A 2045: N/A
Strategy TR: Transportation		
TR-1	Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.	2030: 107 2045: 256
TR-2	Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.	2030: 256 2045: 559
TR-3	Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.	2030: N/A 2045: N/A
TR-4	Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.	2030: 3,832 2045: 13,839
TR-5	Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.	2030: 2,303 2045: 8,186
TR-6	Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.	2030: 1,245 2045: 10,721
Strategy SW: Solid Waste		
SW-1	By 2025, reduce landfilled organic waste by 75% and support food insecure residents by diverting 20% of currently disposed edible food to food recovery organizations to meet and or exceed SB 1383 requirements.	2030: 2,934 2045: 3,570
SW-2	Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.	2030: N/A 2045: N/A
SW-3	Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.	2030: N/A 2045: N/A
SW-4	Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.	2030: N/A 2045: N/A
SW-5	Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.	2030: 425 2045: 513

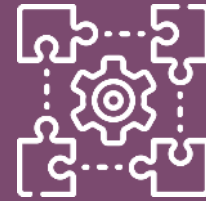


City of Pinole Climate Action and Adaptation Plan (CAAP)

ID	Measure Text	Reductions
Strategy W: Water and Wastewater		
W-1	Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.	2030: N/A 2045: N/A
W-2	Increase the community's use, supply, and access to recycled water.	2030: N/A 2045: N/A
Strategy TR: Carbon Sequestration		
CS-1	Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.	2030: N/A 2045: N/A
CS-2	Increase nature-based and technological carbon sequestration opportunities in Pinole.	2030: N/A 2045: N/A

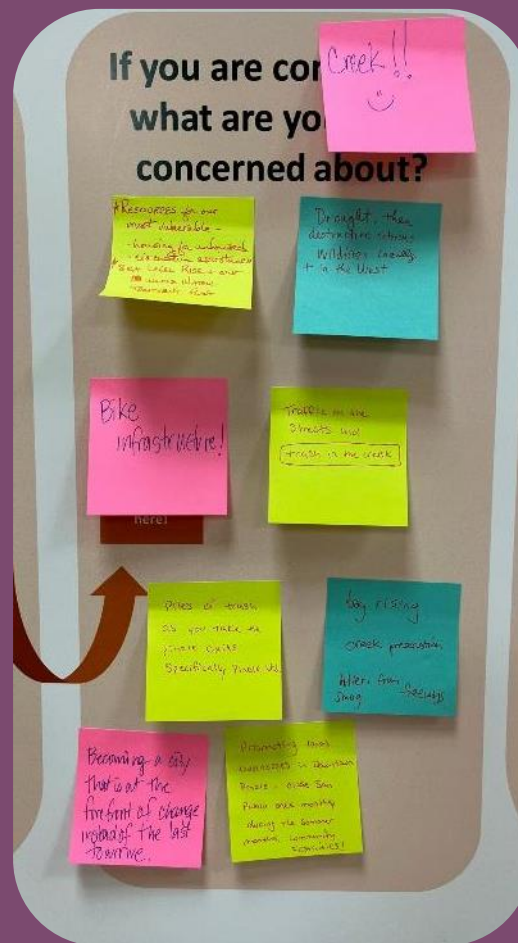
Table 8 Municipal Mitigation Strategies and Measures

Measure ID	Measure Text
Strategy COP City Infrastructure and Operations	
Measure CIO-1	Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.
Measure CIO-2	Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2028 and 100% by 2040.
Measure CIO-3	Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.
Measure CIO-4	Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.
Measure CIO-5	Reduce municipal water consumption 15% by 2030, from 2019 levels.
Measure CIO-6	Reduce organic waste by 10% by 2025, from 2019 levels and landfill zero waste by 2035.
Measure CIO-7	Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.
Strategy CG: City Governance	
Measure CG-1	Build staffing capacity to effectively implement the CAAP Mitigation Measures and update the CAAP triennially.
Measure CG-2	Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.



Cornerstone

CR-1 Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.





Cornerstone

CR-1

Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.



Pinole has traditionally been a bedroom community, a place where people live, but do not necessarily work.¹⁹ We see Pinole as a place where people can live, work, and play, reducing commute times, protecting resources, and spending more time doing the things that bring us joy. Employment in Pinole is changing and based on data from the United States Census Bureau, employment in Pinole declined by 1.43 percent between 2020 and 2021.²⁰ However, this change is aggregated across all job sectors and does not represent the changes in specific fields. For example, Installation, Maintenance, and Repair; Life, Physical and Social Science; and Community and Social Service Occupations, which are traditionally tied to high-road jobs, have grown between 5 and 26 percent in that same timeframe. We will leverage our thoughtful work around electrification, mobility, organic waste management, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs, **aligning with the goals of the Economic Development Strategy (2022)**. Implementation will include creating a green workforce development program to connect residents to workforce development training courses for climate industries with high-road jobs (Action CR-1c). Additionally, the City will identify a place and create a plan to develop a zero-carbon district where all buildings and mobility options are carbon free (Action CR-1h). Collaborative, system-wide solutions will pave the way for realistic and meaningful transformations, addressing one of the most complex challenges of our time and fostering sustainable progress across diverse sectors.

¹⁹ https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf

²⁰ <https://datausa.io/profile/geo/pinole-ca?monthly-employment=latestEmploymentGrowthYoY>

Key Performance Indicators

- Green and clean energy businesses in Pinole (#)
- Certified Green Businesses in Pinole (#)

Emissions Reductions

2030: N/A
2045: N/A

Pillars

- Structural Change
- Funding
- Education
- Partnerships
- Equity
- Feasibility

Co-Benefits

- Access to healthy food
- Cost savings
- Cleaner air/water
- More green spaces
- Improved accessibility
- Improved economy
- Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CR-1a** Coordinate with the City’s Economic Development staff to review and update the Pinole Economic Development Strategy every three years (2026/28, 2029/31, 2032/34, etc.) and adjust fees to specifically attract green and clean energy businesses to Pinole by reflecting changing economic trends, evolving community needs, and emerging opportunities. Include an annual review of the fee schedules (including a survey of competitor’s fees) to assess their impact on green businesses.
-
- CR-1b** Work with the City’s Economic Development staff to perform direct outreach to existing Pinole businesses to identify climate change impacts (e.g., climate hazards, increasing water and natural gas costs, etc.) that may affect the long-term viability and growth of existing core industries and small business. Include regional green and clean energy businesses in a “short list” of industries to focus these initial outreach and business retention efforts during Phase 1.
-
- CR-1c** In partnership with organizations such as the Workforce Development Board of Contra Costa County or Contra Costa College, create a green workforce development program to connect Pinole residents to workforce development training courses for climate industries with high-road jobs. Additionally, use the program to develop a network of local professional associations active in Pinole and to incorporate green workforce development training courses into the periodic “Pinole Workforce Development Consortium” meetings identified in the Economic Development Strategy. Focus this program on members of the most disadvantaged and vulnerable communities in the City and track enrollment and success rate by zip code to monitor the reach and distribution of the initiative.
-
- CR-1d** Partner with the Contra Costa County Green Business Program to help small- and medium-sized businesses in Pinole minimize their impact on the environment and increase the number of certified Green Businesses in Pinole.
-
- CR-1e** Create a Green Technology Incubator in partnership with the Workforce Development Board of Contra Costa County, Contra Costa College, the Renaissance Entrepreneurship Center, the East Bay Economic Development Alliance, or similar partners, to help startups and companies working on innovative solutions for climate-related challenges to succeed in the market. The Green Technology Incubator would provide access to funding through identification and partnership opportunities for grants, technical assistance, networking support, and community exposure.
-
- CR-1f** Incentivize optimal use of properties with a water view by adoption of Municipal Code Amendments allowing for height exceptions for mixed use developments that include top-floor restaurants that are dense, transit rich and connected to Pinole’s growing active transportation network.
-
- CR-1g** Based on the findings and recommendation of the broadband feasibility study, a subsidy or grant program may be developed to improve existing infrastructure of multi-family units (i.e., upgrade internal wiring etc.) to update policies to increase Pinole residents’ work-from-home rate, including incorporating work-from-home strategies into the Transportation Demand Management standards of Action TR-3a.
-
- CR-1h** Explore locations within the City to create a plan to develop a climate resilience district. The district would receive focused City resources, support, partnerships with local businesses, and engagement to develop resilient communities. Examples could include the Pinole Valley area to focus on funding projects related to wildfire risk, for example.
-



Building Energy

- BE-1** Electrify 100% of new construction in the City in 2024.
- BE-2** Electrify existing residential buildings to reduce natural gas consumption by 26% by 2030 and 100% by 2045.
- BE-3** Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 18% by 2030 and 100% by 2045.
- BE-4** Work with MCE to provide 100% carbon-free and renewable energy to at least 95% of the community by 2030.
- BE-5** Increase generation and storage of local community-scale renewable energy by exploring new advancements in the clean energy sector.



Building Energy

BE-1

Electrify 100% of new construction in the City in 2024.



Implementation of this measure would be achieved through adoption of a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction after calendar year 2024. All-electric buildings can be more energy efficient and require lower energy bills than those powered by natural gas.²¹ Constructing new all-electric buildings is more cost-effective up-front than building traditional mixed-fuel buildings due to the cost savings obtained from avoiding the installation and expansion of natural gas infrastructure.²² These long-term and up-front cost savings make all-electric new construction an easy choice for builders. All-electric buildings also provide a critical step towards improving public health because burning natural gas in poorly ventilated areas (i.e., through gas furnaces) can cause a drastic increase of harmful indoor pollutants that are linked to increased risk of respiratory illnesses. One study found that mean nitrogen dioxide concentrations were higher in homes with a gas stove (33.1 ppb) than in those without a gas stove (16.8 ppb),²³ which relates to a 20% increase in symptoms of asthma in children under 12. In this study, indoor levels were also associated with the presence of a gas heater and the use of a space heater or oven for supplementary heating. Using electric appliances mitigates these indoor air pollutant risks. When coupled with Measures BE-4 and BE-5, reducing direct emissions from natural gas consumption in existing buildings will result in buildings that run more efficiently and cleaner in terms of their energy use.

²¹ <https://www.nrdc.org/bio/pierre-delforge/new-study-confirms-benefits-electrifying-ca-buildings#:~:text=Replacing%20natural%20gas%20with%20clean,according%20to%20a%20new%20analysis>

²² <https://rmi.org/insight/the-economics-of-electrifying-buildings-residential-new-construction/>

²³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665158/>

Key Performance Indicators

- All-electric new buildings (% of total new buildings)

Emissions Reductions

2030: 1,509

2045: 5,962

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-1a

Adopt a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction.

BE-1b

Partner with organizations such as MCE, Bay Area Regional Energy Network (BayREN), the Building Decarbonization Coalition and the U.S. Green Building Council (USGBC) to compile a suite of case studies (e.g., document/guide on all-electric best practices and examples applicable to Pinole or the Bay Area) and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype. Provide digital copies on the City's website and hard copies at City Hall for residents and business owners to review and utilize.

BE-1c

Partner with organizations such as MCE, BayREN, the Building Decarbonization Coalition, and USGBC to educate building owners, developers, and contractors on the cost savings, environmental benefits, and versatility associated with all-electric construction, as well as the advantages all-electric construction provide for United States Green Building Council LEED certification. Utilize the case studies and cost-effective strategies as well as existing resources such as those provided by MCE as educational materials and share the information on the City's website, at City events (such as Dumpster Day and Earth Walk), and at the City's permit counter.

BE-1d

Partner with PG&E to conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification and identify infrastructure improvements (including local renewable energy and storage projects) to increase capacity to meet demand. During this process, work with MCE to provide projections on load changes due to electrification.

BE-1e

Partner with MCE, the WFDBCCC and/or other organizations to host regular workforce development trainings for installers, local contractors, and building owners/operators. Trainings would provide financial resources and technical requirements, including information on new electric appliances and approaches to electrification. Partner with community-based organizations to connect members of vulnerable communities to these training programs in plain language and in a culturally appropriate manner.

BE-1f

Advocate for regional policy and programs that allow for utility rates that are supportive of electrification (i.e., electricity rates lower than natural gas rates).



Building Energy

BE-2

Electrify existing residential buildings to reduce natural gas consumption
26% by 2030 and 100% by 2045.



Existing building electrification requires the replacement of fossil-fueled systems with electric alternatives and provides the same GHG emission reduction, energy bill, and public health benefits as new building electrification. However, barriers to this measure have been recognized such as the cost for homeowners and members of disadvantaged and vulnerable communities that make it difficult to prioritize electrification. These community members will also face the greatest impacts if left as the last customers relying on the gas distribution system because they can least afford the significant bill increases anticipated to support aging and stranded natural gas infrastructure.²⁴ Therefore, implementation of this measure would include adoption of a reach code requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings. In Pinole, equitable distribution will be established through a variety of actions, including Action BE-2c, which aims to complete a residential existing building electrification feasibility analysis to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers). Additionally, the City will create a water heater loaner program where residents who are replacing their natural gas-powered water heaters with electric-powered water heaters at the end of their useful lives can borrow or rent a working natural gas water heater from the City (Action BE-2k). In addition to reducing long-term cost burdens, electrification will also improve indoor air quality and increase home values.

²⁴ https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf

Key Performance Indicators

- Residential natural gas consumption (% change)

Emissions Reductions

2030: 4,778

2045: 19,273

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-2a

Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings. The ordinance would apply to projects after calendar year 2024. The ordinance would be implemented through the building permit process.

BE-2b

After calendar year 2024, include major renovations (i.e., projects that affect over 50% of the building, add an additional 50% of gross floor space to the building, or value more than 50% of the assessed value of the property at time of application submittal) in the all-electric new building requirements.

BE-2c

Complete a residential existing building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers). This information will be used to inform and support future updates to the existing building electrification ordinances as well as the building electrification resource center (Action BE-2e).

BE-2d

Partner with Contra Costa County Department of Conservation and Development to create a virtual all-electric building resource center to provide residents information on available electrification assessments, turn-key installations by BayREN and/or state vetted contractors, low up-front costs and on-bill financing, and equipment and labor warranties.

BE-1e

As part of the building electrification resource center, partner with a provider such as Rising Sun to provide free assessments to rental and multi-family properties, as well as seniors and residents living on low incomes.

BE-2f

Partner with MCE and PG&E to review incentives, rebates, and on-bill financing options for procedural equity and then update the incentives to remove the identified barriers.

BE-2g

Partner with properties in Pinole that provide existing deed-restricted affordable housing, MCE, PG&E, and BayREN to initiate and complete an affordable housing electrification pilot project. Project will implement energy efficiency strategies to mitigate increased energy bills for occupants. Promote the pilot project as a case study for future projects in the City and the region.

BE-2h

Work with MCE and PG&E to conduct a cost-effectiveness study and design electricity and natural gas billing rates that make electrification the most cost-effective option to reduce energy bill burdens for residents living on low- and moderate- incomes.

BE-2i

Provide education around cooking with electric appliances and partner with local chefs, restaurants and/or Kitchen@812 to host cooking demonstrations at community events such as the Farmers Market. Integrate locally sourced food into the demonstrations to also educate community members on the GHG emission reduction and resilience benefits of local food.

BE-2j

Enforce ordinance compliance through a comprehensive permitting compliance program which may include, but is not limited to:

- Providing dedicated time for routine staff training to incorporate into existing building inspections.
- Imposing fees for noncompliance to offset staff costs and encouraging voluntary compliance.
- Establishing easy-to-understand web-based compliance checklists and permit applications.
- Facilitating online permitting.
- Providing zero-cost permit fees for heat pump installations.



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-2k

Develop and implement a water heater loan program where residents who are replacing their natural gas-powered water heaters with electric-powered water heaters at the end of their useful lives can borrow or rent at no cost a working natural gas water heater from the City for a limited period of time (e.g., three weeks) to use during any electrical panel upgrade requirements to install an electric water heater. Participation in this program could serve as a mechanism to support thoughtful residential transition. Consider expanding the loan program to induction stoves as well.

BE-2l

Partner with Rising Sun, or similar entity, to continue providing “Green House Calls” to residents to recommend energy-saving appliances and programs to help offset the costs of electrification.

BE-2m

Work with PG&E to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon-neutral buildings. Engage local developers, MCE, and vulnerable populations to assess the feasibility of adopting an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.

BE-2n

Adopt an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.

BE-2o

Explore the development of a revolving fund to integrate wall batteries for energy storage with Pinole’s Energy Enhancement Rebate Program, aiming to enhance energy efficiency, sustainability, and financial viability for a more resilient energy future.

“I’m not really sure how to track my home’s energy consumption. But I do want to start tracking it. To see how my family and I can improve. I’m planning to ask my parents about it.”

– Pinole Community Member



Building Energy

BE-3

Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 18% by 2030 and 100% by 2045.



Similar to residential building electrification, we must pursue commercial building electrification equitably to help small and minority-owned businesses benefit from electrification rather than be left with increasingly expensive gas appliances. Electrifying businesses involves buildings of larger sizes and different purposes. Therefore, this measure was designed to include the development of a building performance program to target a GHG per square foot goal for all commercial buildings over 20,000 square feet which will be implemented through three phases: data collection, retro commissioning, and performance standards. While the technology does exist today to fully electrify all commercial buildings, we must support our business owners to understand the options, resources, and benefits to electrifying their business. This measure has been developed to successfully electrify commercial buildings and mitigate the greatest impacts of climate change, by including education programs to raise awareness among business owners, provide financial incentives, and offer access to expertise regarding the options, support, and benefits of electrifying their establishments.

Key Performance Indicators

- Commercial natural gas consumption (% change)

Emissions Reductions

2030: 997

2045: 5,868

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-3a

Complete an existing commercial building electrification feasibility analysis in 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers).

BE-3b

Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for commercial and mixed-use buildings. The ordinance will be implemented through the building permit process. Track annual progress on commercial and mixed-use building electrification through the same permit tracking program developed for residential building electrification.

BE-3c

Evaluate the success of the Pinole Energy Enhance Rebate Program which offers additional rebates to Pinole residents for energy efficiency improvements stacked on top of federal, state, or regional rebates or discounts. Work with Contra Costa County Department of Conservation and Development to restructure the pilot program as needed. Seek annual grant funding sources to sustain and support the program through.

BE-3d

Develop a building performance standard program to meet a specific level of energy use per square foot for all commercial and industrial buildings over 20,000 square feet.

Implementation and compliance support, including resources and tools which will be implemented through four stages:

1. Pre-development phase – Stage 1 – Staff to receive technical assistance from the Building Technologies Office in the Federal Office of Energy Efficiency and Renewable Energy (EERE). Per the EERE, technical assistance may take the form of:
 - Building stock analyses, including analysis of energy and emission impacts associated with building performance standard adoption
 - Performance target-setting and trajectories
 - Measure and technology prioritization and packaging
 - Cost-effectiveness analyses
2. Data collection phase – Stage 2 – All commercial and industrial building owners with floor area over 20,000 square feet report electricity and natural gas data through energy star portfolio manager
3. Retro commissioning phase – Stage 3 – All covered building owners complete a retro commissioning process to identify and correct system inefficiencies while identifying opportunities for electrification and downsizing of oversized equipment.
4. GHG Performance Standard – Stage 4 – Implement a building performance standard that requires buildings to meet a specific GHG performance level

BE-3e

Conduct targeted outreach and complete tailored campaigns during development of the building performance program (Action BE-3d) and electrification ordinance (Action BE-3b) to identify potential barriers to commercial and mixed-use electrification (including equity barriers) and educate commercial and mixed-use property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to building owners that rent or lease space to small businesses and minority-owned businesses as well as the business owners and conduct a survey to such businesses to identify specific resources needed to support equitable building electrification.



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-3e

Conduct targeted outreach and complete tailored campaigns during development of the building performance program (Action BE-3d) and electrification ordinance (Action BE-3b) to identify potential barriers to commercial and mixed-use electrification (including equity barriers) and educate commercial and mixed-use property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to building owners that rent or lease space to small businesses and minority-owned businesses as well as the business owners and conduct a survey to such businesses to identify specific resources needed to support equitable building electrification.

BE-3f

Partner with Contra Costa County to provide small and minority-owned businesses, as well as commercial property owners who rent or lease space such business, electrification assessments. These assessments will be conducted by BayREN or state vetted contractors and include turn-key installations at low up-front costs. Additionally, the building electrification resource center (Action BE-2e) will provide equipment and labor warranties. Furthermore, partner with MCE or PG&E to provide on-bill financing.

BE-3g

Partner with the Bay Area Council, Bay Front Chamber of Commerce, and Contra Costa County Green Business Program to inform, encourage, and facilitate electrification for commercial business owners.

BE-3h

Review incentives and rebates (from Action BE-3i) for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural roadblocks, and lack of targeted outreach.

BE-3i

Work with MCE and PG&E to incentivize all-electric retrofits by combining rebate programs and financing mechanisms to create cost-effective electrification packages and develop bulk-purchasing opportunities for multi-unit development owners. Additionally, work with BayREN to educate the business community about the available incentives and include direct outreach to small, and frontline community-owned businesses and property owners who rent and lease space to frontline community-owned businesses.

BE-3j

Work with BayREN to identify highly efficient net zero energy building owners that meet the CPUC's hard-to-reach criteria and recognize them through the City's communication channels. Publicize commercial tax breaks to these building owners as well as commercial developers in Pinole.

BE-3k

Re-evaluate the building performance program (Action BE-3d) every three years to gauge implementation progress and phase expansion of program to smaller buildings.

BE-3l

Review and update Section 15.46.020 of the Municipal Code to require upon a transfer of ownership the disclosure of additional relevant weatherization information (e.g., ventilation standards, wall insulation, and installation of programmable thermostats) for residences and commercial buildings over 5,000 square feet. As part of this, work with Contra Costa County Department of Conservation and Development to promote the Weatherization Program for qualifying residents. Additionally, develop a City-specific disclosure checklist and coordinate with realtors/brokers to engrain the City's resale requirements into their work with buyers and sellers.



Building Energy

BE-4

Work with MCE to provide 100% carbon-free and renewable energy to at least 95% of the community by 2030.



MCE's Deep Green service eliminates fossil fuels sources electricity from their service, providing electricity from 100 percent renewable sources (i.e., solar, hydro, and wind).²⁵ While the California grid will continue to get cleaner as the Renewable Portfolio Standard progresses, MCE provides Pinole with GHG emission reduction potential in the meantime—especially when paired with all-electric buildings. Maintaining enrollment in MCE Deep Green will help leverage the benefits of renewable energy, fostering a sustainable and resilient community while reducing GHG emissions. The City will adopt a resolution to enroll all of Pinole's residents and businesses in MCE's Deep Green (or alternatively, Light Green if it is 100 percent carbon-free) by 2030 (Action BE-4a), and work with MCE as part of Action BE-4b to create a funding and subsidy plan/program for customers enrolled in the CARE or FERA programs to opt-up to MCE's Deep Green option. The City will continue working with MCE to understand the hurdles and barriers that residents and business owners may encounter related to maintaining low opt-out rates as well as provide education and targeted outreach that clearly detail the benefits of using carbon free and renewable energy in homes and businesses.

²⁵ <https://www.c2es.org/content/renewable-energy/>

Key Performance Indicators

- Accounts enrolled in MCE Deep Green (%)
- Communitywide electricity emission factor (MT CO₂e/kWh)

Emissions Reductions

2030: 3,200

2045: 0

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-4a

Support MCE in building capacity and funding to provide all Pinole customers 100% carbon-free and renewable energy and adopt a City resolution to automatically enroll all Pinole residents and businesses in carbon-free and renewable from MCE (e.g., MCE's Deep Green option) by 2030. The resolution shall include identification of a funding or subsidy plan/program (Action BE-4b) to avoid cost increases to customers enrolled in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs (Action BE-4b).

BE-4b

In support of Action BE-4a, work with MCE to create a funding and subsidy plan/program for customers enrolled in the CARE or FERA programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for vulnerable communities.

BE-4c

Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low- and fixed-incomes and vulnerable communities to identify barriers to remaining with MCE.

BE-4d

Continue to partner with MCE to conduct educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy and promote the available incentives.

BE-4e

Conduct targeted outreach campaigns to convert PG&E direct access customers to MCE by promoting available incentives and promoting the economic and business benefits of 100% renewable energy.



Building Energy

BE-5

Increase generation and storage of local community-scale renewable energy.



While all-electric buildings can be carbon neutral and produce lower energy bills than those powered by natural gas, we must also prioritize reliability and safety. Pairing all-electric buildings with local solar photovoltaics and battery storage can insulate the community from public safety power shutoffs and grid outages, increasing the resilience of our buildings. Additionally, local solar and battery storage can reduce energy bill burdens by reducing the electricity purchased from the grid and avoiding purchase during peak hours. However, solar and battery storage come with high upfront costs that may be difficult for members of disadvantaged and vulnerable communities to prioritize. There can also be a disconnect between owners and occupants of rental or multi-family properties where the owner takes on the cost burden and the residents reap the benefits. To create an equitable transition to renewable energy, the actions developed with the measure provide a framework that focuses on partnerships (Action BE-5d) and financing mechanisms (Action BE-5f) to provide local solar to disadvantaged and vulnerable communities and explore opportunities for community solar. Increased use of renewable energy and zero-carbon sources supports SB 100, which requires at least 60 percent of energy supplied in California be renewable by 2030 and be 100 percent renewable and carbon-free by 2045.²⁶

²⁶ <https://www.energy.ca.gov/sb100>

Key Performance Indicators

- Renewable energy generation capacity installed (MWh)
- Energy storage capacity installed (MWh)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

BE-5a

Adopt a Solar Ordinance requiring newly constructed and majorly renovated multi-family and commercial buildings to install solar systems and storage that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen.

BE-5b

Continue to establish and streamline standards, permit requirements and processes for electrification-related installations such battery storage systems to allow for easier implementation of these technologies in the City.

BE-5c

Install a co-located community solar and storage facility to benefit affordable housing sites using Equity Resilience Incentives under the Self-Generation Incentive Program available through the California Public Utilities Commission.

BE-5d

Collaborate with PG&E, MCE, Contra Costa College, the Academy of Art University School of Motion Pictures & Television and/or other regional and local community partners to support and incentivize local on-site energy generation and storage resources. This could include:

- Connecting home and business owners, particularly those in vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill credits, the federal investment tax credit, and the California Public Utilities Commission's (CPUC) Disadvantaged Communities-Single-Family Solar Homes (DAC-SASH) program, Self-Generation Incentive Program (SGIP) and Equity Resilience rebates that provide an upfront rebate for battery storage.
- Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms and communication channels.
- Create community spotlight campaigns highlighting interviews with Pinoleans who have paired installation of storage technology with renewable energy infrastructure.
- Providing workshops to large commercial developers and large business property owners on the benefits of microgrids and energy resilience.
- Creating a strike team to conduct engagement efforts for the commercial sector to identify ways the City can support commercial energy storage installations and neighborhood scale microgrid opportunities.

BE-5e

Expand the partnership with GRID Alternatives through increased funding/support and promote the benefits of renewable energy through multi-lingual educational programs to facilitate an equitable transition to renewable energy.

BE-5f

Partner with CBOs and homeowner's associations (HOAs) through the City's professional grant writing consultant, who will support the identification, conceptualization, preparation, and submittal of grant applications to secure funding for community-scale renewable energy projects. Utilize any grant funded projects as City pilot projects to demonstrate the success of the program and opportunities available.

"The faster we implement energy source revisions or investments; the more money Pinole will save in the long run."

– Pinole Community Member



Transportation

- TR-1** Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.
- TR-2** Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.
- TR-3** Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.
- TR-4** Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.
- TR-5** Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.
- TR-6** Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.



Transportation

TR-1

Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.



In addition to reducing vehicle miles traveled (VMT), and in turn GHG emissions, increasing safe active transportation options provides health, mobility, and livability benefits. Increasing opportunities for safe active transportation—any self-propelled, human-powered form of transportation such as walking, biking, skating, or scooting —increases our opportunity for physical exercise and recreational activities. With the Pinole Creek traversing the City, we have a direct opportunity to provide interconnected network that links residential neighborhoods, schools, and commercial centers to Pinole Creek and thereby to each other (Action TR-1b). Active transportation also improves mobility, providing community members who cannot drive with affordable options to travel safely and independently. Simultaneously, it bridges the first- and last-mile gap by providing extended mobility options. This measure will include completion and implementation of the Active Transportation Plan (Walk and Roll Pinole), which is being prepared as of the time of this drafting.²⁷ The City will also periodically host open street events to transform streets into non-motorized spaces instantly and at a low cost. We can collectively overcome the traditional hurdles associated with active transportation (e.g., infrastructure constraints, safety concerns, and inadequate facilities) through thoughtful planning, investing in active transportation infrastructure, implementing safety improvements, and fostering a cultural evolution towards making Pinole a 15-minute City, which is defined as a community where people can access key amenities by actively commuting no more than 15 minutes.

²⁷ https://ghd.mysocialpinpoint.com/pinole_atp

Key Performance Indicators

- Active transportation mode share (%)
- Bike lanes installed (miles)
- Bicycle repair stations and parking structures installed (#)

Emissions Reductions

2030: 107
2045: 256

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

TR-1a

Conduct an analysis of existing bicycle and pedestrian conditions during the development of the Active Transportation Plan with a focus on identifying residential communities, commercial uses, schools, and open spaces currently disconnected from the Creek, due to freeways and lack of connections on busy roads. Build on the interactive map created to solicit community input regarding the Active Transportation Plan on “Pinole Speaks,” the City’s public input website to display the active transportation conditions

TR-1b

Complete the Active Transportation Plan with a focus on creating safe and connected active transportation networks that link residential neighborhoods, schools, and commercial centers to Pinole Creek and thereby to each other. The plan will include:

- A prioritized list of pathways to be installed or upgraded to include shared-use paths, buffered bike lanes, bike boulevards, and separated bikeways.
- A prioritized list of bicycle parking or storage and equipment repair infrastructure.
- Information on additional infrastructure installed as part of the plan, such as trash and recycling receptacles to prevent waste from entering the creek due to increased usage.
- A schedule for reducing vehicle speed limits at prioritized locations.
- Available funding sources for infrastructure buildout.
- Use of sustainable materials, when feasible

Prioritization shall focus on achieving an equitable active transportation system where all Pinole residents have access to critical connections and mobility options.

TR-1c

Partner with Contra Costa Transportation Authority to pursue funding from Caltrans’ Active Transportation Program or similar funding opportunities to implement improvements from the City’s Active Transportation Plan.

TR-1d

Partner with entities such as the Metropolitan Transportation Commission, 511 Contra Costa, or the Contra Costa Transportation Authority to expand existing rebate programs to help families living in Pinole on low- and fixed-incomes purchase alternative modes of transportation (e.g., bicycles, scooters, rollerblades, skates, skateboards) and appropriate safety gear.

TR-1e

Partner with Bike East Bay and/or other non-profit groups to periodically close streets with connections and vistas of the Creek to cars to host walk/bike/roll (car-free) community events that demonstrate the benefits of a safe and connected active transportation network. Coincide these community events with regular active transportation events to encourage and reward residents for participation.

TR-1f

Partner with schools, youth sports leagues, the Pinole Police Department, the Pinole Community Services Commission and community groups such as Friends of Pinole Creek Watershed, 511 Contra Costa, Pinole Valley Earth Team, Pinole Rotary, and local Tribes to teach students and families bicycle and pedestrian safety and educate them on the safe route availability and the health and environmental benefits of walking and bicycling, as well as the history of the Pinole Creek ecosystem and surrounding natural lands.



City of Pinole Climate Action and Adaptation Plan (CAAP)

TR-1g

Partner with an electric bike provider or rental company to pilot an electric-bike rental program at the Pinole Library. Track use of the program, including equity indicators, to monitor its success and evaluate continuation of the program.

TR-1h

Install bike repair stations along the Pinole Creek and other prime locations, and consider partnering with a local bike shop to provide quarterly bicycle repair support for residents traveling along the bike path or at a designated, central location.

TR-1j

Implement 100% of the Active Transportation Plan by 2030 to achieve a 5.5% active transportation mode share by 2030 and 11.5% by 2045.

“Most services can be accessed on foot, but there are some barriers and difficult routes, missing curb cuts and unmarked crossings. These improvements would make the city safer for pedestrians.”

– Pinole Community Member



Transportation

TR-2

Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.



Increasing public transit mode share provides benefits beyond reducing GHG emissions from vehicles. Public transit and shared transportation can shift communities towards a healthier future by reducing local air pollutants and boosting quality of life. Public transportation has substantially lower crash rates and lower crash severity than automotive travel. It also provides cost saving opportunities to the public due to savings from less fuel, maintenance, insurance, and registration costs.²⁸ Further, public transportation fosters public health improvements because most public transit users regularly walk or bike to access points. This trend can result in improved health and reduced medical expenses when coupled with the local air quality improvements that reduced mobile combustion of fossil fuels provides. Based on community responses to the CAAP survey, approximately 78 percent of respondents said that they do not utilize active transportation currently because it takes too long to get where they need to go. Approximately 61 percent of respondents also noted that they like the freedom of leaving and arriving on their own schedule. Therefore, implementation of this measure would include completing a prioritization study to determine transit priority corridors and the best potential locations for expansion to improve transit accessibility. Based on the prioritization study, a plan would be developed to expand routes and schedules; provide consistent labeling; create safe, clean, and convenient shelters; and monitor the routes to confirm they meet the needs of the community.

²⁸ <https://www.transportation.gov/mission/health/Expand-Public-Transportation-Systems-and-Offer-Incentives#:~:text=Investments%20in%20public%20transportation%20have,crash%20severity%20than%20automotive%20travel.>

Key Performance Indicators

- Public transit mode share (%)
- Bus service added (hours/week or miles)

Emissions Reductions

2030: 256
2045: 559

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

TR-2a

Partner with Western Contra Costa Transit (WestCAT) to conduct a prioritization study to determine transit priority corridors and best potential locations for WestCAT expansions (including the Hercules Intermodal Transit Center and Richmond BART Station) to reduce transit travel times from/to Pinole. The study shall include an analysis of existing shelters and schedules, a survey of existing commuter patterns, analysis of potential latent demand, and targeted outreach to residents living on low- and moderate-incomes and members of vulnerable communities to understand the concerns around or equity barriers to using public and/or shared transit.

TR-2b

Conduct a feasibility study to assess the potential impacts and costs of a park-and-ride facility in Pinole and identify potential locations.

TR-2c

Work with WestCAT to complete an analysis of potential design improvements, such as seating and shading bus shelters and along active transportation routes to increase use.

TR-2d

Work with WestCAT to improve transit accessibility for people with disabilities by ensuring physical accessibility (i.e., ramps, lifts, and tactile paving), providing both audio and visual information; training staff on how to assist people with disabilities and handle equipment; and actively engage people with disabilities in the decision-making process.

TR-2e

Partner with WestCAT and the Contra Costa Transportation Authority to implement a free public transit pilot program for students, foster youth, and unhoused youth in Pinole that makes it free for participants to travel via WestCAT.

TR-2f

Based on the prioritization studies (TR-2a - TR-2c), develop a plan to prioritize infrastructure improvements in existing neighborhoods that increase access to and use of public transit. The plan shall include projects and timelines to:

- Expand WestCAT routes and schedules
- Cohesively identify all existing and new shelters so that there is consistent branding, map formats and information displays (this would also support implementation of Measure EH-1)
- Provide safe and convenient shelters with benches, shade, hand sanitizing stations, area maps, and native plants
- Establish a schedule to annually monitor routes and schedules to confirm they meet the needs of the community

TR-2g

Engage with Caltrans to design and install a park and ride facility, which may include implementing efficient traffic flow systems.

TR-2h

Partner with 511 Contra Costa to educate Pinole residents, commuters, and students on available transit opportunities through free commute consultations and provide qualifying commuters with financial incentives to take transit, such as pre-loaded Clipper cards and a Guaranteed Ride Home program.

TR-2i

Partner with WestCAT and the Contra Costa Transportation Authority to pursue funding for the prioritization study and plan (TR-2a - c and TR-2f) through MTC's One Bay Area Grant funding, or similar funding opportunities.

TR-2j

Partner with the West Contra Costa Unified School District and/or private schools to evaluate mobility needs and expand bus routes where necessary to increase access to and use of school bus transportation to schools, including services for after-school hours for student and their guardians



Transportation

TR-3

Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.



We recognize that supporting active transportation and public transit will require making the systems more accessible, convenient, and safer (Measure TR-1 and TR-2) and coupled with implementation of programs and policies to discourage driving, we can realize meaningful transformations in our mobility network that impact much more than just transportation. Developing programs and policies to discourage driving single occupancy vehicles such as the development of Transportation Demand Management (TDM) Plans that provide a defined set of strategies aimed at maximizing traveler choices (Action TR-3a) will be a primary component of this measure.²⁹ This measure also includes an action to create a Pinole Parklets program in existing parking areas with a distinctive design that incorporates seating, greenery, and/or bike racks and accommodate unmet demand for public space on neighborhood retail streets or commercial areas (Action TR-3b). Implementation of this measure would also include developing partnerships to identify gaps in the mobility network to prioritize cross-jurisdictional collaboration and connect the region, reducing the need for single occupancy vehicles. Additionally, the City will analyze and work to mitigate the potential community impacts and feasibility and benefits of implementing disincentive-based policies for driving single-passenger vehicles.

²⁹ https://ops.fhwa.dot.gov/plan4ops/trans_demand.htm

Key Performance Indicators

- Ordinance adopted
- Feasibility study status
- Parklets installed (#)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- TR-3a** Adopt an ordinance requiring all employers to develop a Transportation Demand Management (TDM) Plan and require large employers (i.e., more than 25 employees) to include money-based incentives for employees to bike, walk, carpool, or take public transit to work. Additionally, complete a comprehensive study to establish an Average Vehicle Ridership (AVR) that accurately reflects Measure TR-1 and TR-2's goals.
-
- TR-3b** Create a Pinole Parklets Program to install parklets in the downtown and other commercial areas of the City and engage with businesses to gain sponsorship for the parklets.
-
- TR-3c** Require informative signage be included at the parklets designed through the Pinole Parklet Program (Action TR-3b) that provide information on the benefits of ecosystem services at all scales, and the health impacts associated with reducing single occupancy vehicle trips.
-
- TR-3d** Partner with local jurisdictions, public transit providers, and CBOs to identify gaps in the mobility network that can be prioritized for cross-jurisdictional collaboration to connect the region and reduce the need for single occupancy vehicles.
-
- TR-3e** Conduct an analysis of the potential community impacts and feasibility and benefits of implementing disincentive-based policies for driving single-passenger vehicles, including a congestion charge program, limiting parking options, increased local taxes (income tax, gasoline tax, or car registration tax), and Transportation Network Companies (TNC) user taxes. Include analysis of potential equity impacts of the policies and identification of potential equity metrics to address equity concerns when developing policies.
-
- TR-3f** Consider opportunities to fund transportation system improvements through disincentive-based program revenues and/or a tiered TDM fee for employers who do not achieve the established AVR by 2030 to establish an equitable transition to more sustainable modes of transportation.
-
- TR-3g** Conduct AVR surveys of Pinole businesses every three years to determine weekday AVR and mode share split, perceived barriers to telecommuting and alternative modes of transportation (i.e., modes other than single-occupancy vehicles), and interest in sustainable transportation amenities, infrastructure, and events/resources.
-
- TR-3h** Consider development applications that will improve the community by increasing density in transit-rich areas and connecting residents of multi-family, and/or affordable housing sites to public and shared transit options.
-

“Better active transportation infrastructure seems achievable to me and seems it could provide economic benefits as well.

– Pinole Community Member



Transportation

TR-4

Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.



Widespread adoption of passenger ZEVs provides a range of benefits including reduced GHG emissions from avoiding local combustion of fossil fuels; improved public health through enhanced overall air quality;³⁰ and cost savings by reducing dependence on traditional fuel sources.³¹ However, it is important that the transition is equitable and accessible. Purchasing or leasing a ZEV and upgrading infrastructure to allow for charging can be an upfront cost difficult for members of disadvantaged and vulnerable communities to prioritize. Similarly, residents of rental and multi-family properties may lack the property rights to make upgrades. Therefore, we will focus on an equitable transition to ZEVs through installation of 270 publicly available chargers by 2030, implementation of financing mechanism, and education. Locations for the chargers will be determined during completion of a preliminary feasibility study that will include an evaluation of opportunities and prioritization of locations to increase the equitable distribution of publicly available EV chargers to residents of multi-family homes and residents living on low- and moderate-incomes, as well as consideration for optimizing daytime charging by placing chargers at locations where people are most frequently during the day. The City will also work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing.

³⁰ <https://www.sciencedirect.com/science/article/abs/pii/S0048969723003765?via%3Dihub>

³¹ https://afdc.energy.gov/fuels/electricity_benefits.html

Key Performance Indicators

- Passenger ZEV adoption (%)
- Publicly accessible chargers installed (#)

Emissions Reductions

2030: 3,832

2045: 13,839

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- TR-4a** Adopt an EV reach code by 2025 requiring new commercial and multifamily construction to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces).
-
- TR-4b** Adopt an EV reach code by 2026 requiring major multifamily building retrofits to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces) and major commercial retrofits (with a square footage larger than 10,000 square feet or modifications for electric service panels) to meet CalGreen requirements for “EV Ready” charging spaces and infrastructure.
-
- TR-4c** Adopt an ordinance that bans the development of any new, or expansion, renovation or relations of any existing, fossil fuel gas stations in the City prior to the expiration of the Urgency Ordinance. The process should include:
1. Determining and defining an outreach process.
 2. Preparing a General Plan, Specific Plan, and Zoning Ordinance text amendment, which would establish Service Station land use as Not Permitted by Table 17.20.030-1 in the PMC, making all existing service stations legal non-conforming and subject to Section 17.14.080 of the Municipal Code.
 3. Determine if any streamlining enhancements to existing provisions in the PMC that incentivize the expansion, modification, or retrofit of an existing service station to incorporate biodiesel or other alternative fuels or charging stations for electric vehicles should be considered.
 4. Take the Amendments through the required public review process, including Planning Commission recommendation and City Council adoption.
 5. Continue to direct staff to explore options for additional charging at City-owned/maintained properties and private facilities for public benefit.
-
- TR-4d** Update Pinole’s permit process for EV chargers to create a streamlined process for residents and businesses that is consistent with the State’s Electric Vehicle Charging Station Permitting Guidebook (as well as AB 970, AB 1236, and Pinole Municipal Code Chapter 15.58).
-
- TR-4e** Prepare a feasibility study to evaluate opportunities for installation of EV charging stations at City owned facilities. The feasibility study will assess electrical capacity, electrical demand, financial constraints, funding sources and parking utilization to provide a prioritized list of locations to install new publicly accessible EV charging stations.
-
- TR-4f** In the feasibility study, include evaluation of opportunities and prioritization of locations to increase the equitable distribution of publicly available EV chargers to residents of multi-family homes and residents living on low- and moderate-incomes, as well as consideration for optimizing daytime charging.
-
- TR-4g** Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City’s website and at community events.
-



City of Pinole Climate Action and Adaptation Plan (CAAP)

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- TR-4h** Work with MCE to promote and provide technical assistance for their Residential EV Rate Plan and MCE Sync charging app to help community members charge during off-peak hours and save money on home charging.
-
- TR-4i** Coordinate with community-based organizations, local agencies, and non-profits such as Charge Up Contra Costa, 511 Contra Costa, and Cool the Earth to conduct zero-emission vehicle (ZEV) education events for residents and targeted events for residents living on low- and moderate-incomes as well as residents living in multi-family buildings that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and detail the steps on how to receive incentives for ZEVs.
-
- TR-4j** Work with Contra Costa County Department of Conservation and Development to create an EV charging etiquette policy that encourages a seamless charging experience, fosters community collaboration, and promotes sustainable practices for the benefit of all electric vehicle users and the environment.
-
- TR-4k** Develop an equitable charging fee structure that provides accessibility for all users, regardless of socio-economic background, fostering inclusivity and promoting widespread adoption of electric vehicles.
-
- TR-4l** Develop outreach and education materials and distribute them to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health, and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process. **Additionally, as part of this process, include information on EV battery recycling to dispel myths, ease disposal concerns, and promote sustainable practices grounded in science.**
-
- TR-4m** Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a zero-emission vehicle car share network.
-
- TR-4n** Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share program to serve affordable housing and/or multifamily developments with a priority to target residents living on low- and moderate-incomes.
-
- TR-4o** Based on the prioritized list of locations developed through actions TR-4d and TR-4e, install at least 267 new publicly accessible level II chargers by 2030 and 323 by 2045, through public-private partnerships and on City-owned properties.
-



Transportation

TR-5

Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.



Commercial ZEVs, such as electric delivery vehicles, can help to reduce operating costs by minimizing fuel and maintenance expenses. For this transition to be successful, it is important that businesses of all sizes have access to the resources and support they need to make the transition. Diesel-powered commercial vehicles are a significant source of particulate matter and other harmful pollutants, which can have negative health impacts, especially for vulnerable populations such as children, older adults, and those with respiratory conditions. By transitioning to ZEVs, businesses can contribute to cleaner air and a healthier community and play an active role in establishing the most sustainable future. Implementation will include analyzing the commercial vehicle fleets in the City and identifying employers to work with to accelerate ZEV adoption through outreach and education. Additionally, the City will identify opportunities to fund additional charging infrastructure through leveraging public/private partnerships and implement local tax breaks to incentivize commercial fleet electrification, where feasible.

Key Performance Indicators

- Commercial ZEV adoption (%)

Emissions Reductions

2030: 2,303

2045: 8,186

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

TR-5a

Work with the Bay Area Air Quality Management District, Pacific Gas & Electric, and or similar entities to identify and provide funding for electric vehicles and charging infrastructure for disadvantaged or vulnerable business owners.

TR-5b

Create a summary of commercial vehicle fleets in Pinole and identify employers to work with to accelerate ZEV adoption through targeted education.

TR-5c

Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of zero emission vehicles (e.g., fuel cost savings through networked charging and current availability of zero emission vehicles ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities.

TR-5d

Implement local tax breaks to incentivize commercial fleet electrification.

TR-5e

Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.



Transportation

TR-6

Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.



Decarbonizing off-road equipment offers significant GHG emission reductions and air quality improvements. Off-road equipment, such as landscaping equipment and construction equipment, emit both GHG emissions (approximately 7 percent of the City's total emissions, as shown in Chapter 2) and local smog-forming emissions. In California, total smog-forming emissions³² from small off-road engines exceed emissions from light-duty passenger vehicles.³³ Operating a commercial gas-powered leaf blower for one hour emits smog-forming pollution comparable to driving a new light-duty passenger car about 1,100 mile or over 15 hours of driving. These characteristics mean zero-emission alternatives for off-road equipment can help create a cleaner and healthier City. However, decarbonizing off-road equipment requires upfront costs that can be difficult for residential and business members of disadvantaged and vulnerable communities to navigate. An equitable transition to zero-emission off-road alternatives, as supported specifically by Actions TR-6d and TR-6e, requires a multi-faceted approach that addresses both the technical and financial barriers to adoption. As part of this, the City will develop a multi-lingual Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in the City.

³² Although not a GHG emission, smog is directly related and is the most pervasive form of air pollution, immediately impacting our ability to breathe and causing underlying health conditions to worsen. <https://ww2.arb.ca.gov/our-work/topics/air-pollution>

³³ <https://ww2.arb.ca.gov/resources/fact-sheets/sore-small-engine-fact-sheet>

Key Performance Indicators

- Off-road equipment decarbonized (%)

Emissions Reductions

2030: 1,245

2045: 10,721

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

TR-6a

Create a phased ordinance by 2026 to ban the local operation of gasoline and diesel-powered off-road equipment by type (e.g., lawn and garden, construction), including banning local operation of gasoline and diesel-powered small off-road equipment (SORE) by 2028. Update the ordinance based on a regular review of relevant state regulations, regional rules, and available technology.

TR-6b

Establish a communication and outreach program to raise awareness of the ordinance, educate community members on the benefits of and funding opportunities for offroad decarbonization, and collect data on offroad fleet and decarbonization trends in the community (e.g., through outreach sampling and surveying).

TR-6c

As part of Action TR-6b's program, investigate off-road equipment fleets in the City to identify fleets with the highest decarbonization potential, fleets owned by small and minority businesses that will need targeted support and incentives to decarbonize or electrify, and fleets that do not currently have zero-emission alternatives. Utilize these findings to develop the phased off-road ordinances.

TR-6d

As part of Action TR-6b's program, develop a multi-lingual Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in the City, with a target towards those identified in Action TR-6c. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).

TR-6e

Partner with surrounding jurisdictions and the Bay Area Air Quality Management District (BAAQMD) to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.



Solid Waste

- SW-1** By 2025, reduce organics to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.
- SW-2** Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.
- SW-3** Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.
- SW-4** Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.
- SW-5** Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.



Solid Waste

SW-1

By 2025, reduce organics to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.



Organic waste, which includes any material that is biodegradable and comes from either a plant or an animal, accounts for more than 33 percent of the State’s waste stream.³⁴ In California alone, there are more than 6 million tons of food waste or food scraps thrown into landfills every year, representing approximately 18 percent of all materials that go to a landfill.³⁵ Methane gas, a powerful GHG pollutant 28 times more potent than carbon dioxide, as detailed in Chapter 2 and Appendix A, is released from the anaerobic or oxygen free decomposition of organic waste, making landfills a significant source of GHG emissions. Landfilled organic waste emits 20 percent of the state’s total methane. Therefore, diverting organic waste from landfills through the recovery of edible food for human consumption or through composting prevents these emissions. To implement a successful organic waste diversion program, the City will establish partnerships with local Community Based Organizations to provide clear, multi-lingual outreach materials for high organic generation commercial accounts to educate management and staff about best practices in food waste reduction and surplus food donation (Action SW-1d) as required by SB 1383. Implementation will include developing a comprehensive organics collection and edible food recovery program for low income and fixed income people to ensure access to edible surplus food recipients such as food banks and other food recovery organizations. Additionally, because names have meaningful connotations, the City’s traditional “Dumpster Day” will be rebranded into the City’s “Resource Recovery Day,” in both name and concept.

³⁴ <https://www.sciencedirect.com/science/article/abs/pii/S0048969723003765?via%3Dihub>

³⁵ https://afdc.energy.gov/fuels/electricity_benefits.html

Key Performance Indicators

- Landfilled organic waste (% change)
- Edible food diverted (%)

Emissions Reductions

2030: 2,934
2045: 3,570

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

SW-1a

Through MOUs with the City's waste haulers, establish requirements by 2024 for waste haulers to perform annual performance assessments to determine compliance with SB 1383 requirements. If the performance assessments show the hauler is not on target, meet with the hauler and RecycleMore staff to establish prioritized actions for the hauler and/or RecycleMore to complete. Additionally, utilize the assessments to identify trends in contamination and integrate lessons learned into the educational program as part of Action SW-1e.

SW-1b

Partner with RecycleMore, Sustainable Contra Costa, or similar entities to complete community based social marketing (CBSM) targeted outreach and education campaign by 2025 to high organic generation commercial accounts to educate and train commercial generators' management and staff about best practices in food waste reduction and surplus food donation. As part of this effort, develop successful case studies for Pinole food facilities to provide best practices, cost savings and other methods to energize food facility managers and staff to fully participate in the organics diversion and edible food recovery programs.

SW-1c

In concert with Economic Development programs, establish a Pinole business outreach campaign and recognition program by 2025 to celebrate restaurants/food facilities with the highest diversion and edible food recovery success. Create a space on the City's CAAP website to highlight the campaign and leaders in the community, as well as provide a plaque or alternative community recognition that emphasizes the successful initiatives.

SW-1d

Establish a program by 2024 to distribute organics pails at grocery stores in lower-resourced areas and community events (e.g., Farmers Markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk). Additionally, directly connect with property owners/managers of low- and moderate- income rental housing to distribute food pails directly to housing units. Through the program, track how many pails are distributed quarterly.

SW-1e

Establish and maintain an ongoing education program informing the community about compostable materials and upcoming at-home composting workshops, including regularly updated guidelines on composting, especially paper, distributed bi-annually and made available at the City permit counter, grocery stores, as well as at farmers' markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk and other community events.

SW-1f

Transform Pinole's "Dumpster Day" into "Resource Recovery Day," in both name and concept, by introducing a community swap meet element where residents exchange/recycle household goods in preference to conventional commerce and waste. At the event, the City can provide education about organics diversion (including the concept of closing the loop for organics material and edible food recovery) and the "Buy Nothing" movement, and feature special compost giveaway events (e.g., free organics pails). The City will also accept traditionally discarded materials (e.g., glass, clothing, furniture, etc.) and trash item at the Resource Recovery Day.

SW-1g

Work with local grocery stores and retail food markets, the Contra Costa and Solano Food Bank Rescue Program, RecycleMore, and community groups to understand the criteria for acceptable food for recovery and establish a more robust food rescue and distribution program to divert additional edible food to food insecure residents.



City of Pinole Climate Action and Adaptation Plan (CAAP)

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- SW-1h** Identify and support school organizations in the City (e.g., leadership, sustainability, and environmental groups or clubs) to start “Go Organics” programs to initiate, educate, and implement robust organics collection programs on campus in collaboration with the City’s waste hauler and RecycleMore.
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- SW-1i** Develop presentations for all schools in Pinole to:
- Educate students, staff, and teachers on how to implement an efficient, yet robust organics collection program.
 - Educate students, staff, and teachers on the benefits of diverting organics and reducing GHG emissions.
 - Engage school leadership on the benefits of establishing a ‘closed loop partnership’ regarding organics. This could include adding organics end products such as mulch and compost delivered from the City’s waste hauler nearby composting facility to school gardens and landscaping, thereby eliminating need for pesticides and herbicides, and increasing water retention in school landscaping.
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- SW-1j** Continue to partner with the City’s waste hauler to include quarterly multi-lingual inserts in residential and commercial billing to highlight important programs and initiatives, including the single-use plastic ban and the no-cost organics pails available to residents and the composting programs in Action ID SW-1h, as well as new programs as they are created.
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- SW-1k** Develop a comprehensive outreach program to educate Homeowner Associations, neighborhood associations, and communities on social media platforms such as NextDoor and Pinole Community Television on the City’s organic waste diversion requirements and available programs and resources to increase diversion.
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- SW-1l** Implement a comprehensive organics collection and edible food recovery program for low income and fixed income people to ensure access to edible surplus food recipients such as food banks and other food recovery organizations.
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- SW-1m** Fund the comprehensive organics collection and edible food recovery program using CalRecycle’s SB 1383 grant funding cycle.
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- SW-1n** Partner with local waste management providers, food recovery organizations, and West Contra Costa Unified School District, private schools in Pinole, or similar entities, to analyze existing food waste generation, disposal practices, and potential sources of edible surplus food.
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- SW-1o** Install compost bins throughout the City in all locations where there are landfill and recycling bins to collect organics generated. Ensure that there is clear signage and the bins are emptied routinely. Incorporate the hauling requirements into the waste hauler’s contract to confirm proper management and disposal.
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Solid Waste

SW-2

Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.



Reducing landfilled inorganic waste does not directly reduce GHG emissions, however, it is a supportive measure that contributes to the overall goals of the CAAP. Inorganic waste is composed of waste that is not plant or animal-based, including synthetic materials (plastics, polyester, acrylic, rubber, etc.) sand, dust, and glass. As we continue to reduce and change our consumption patterns, we can make conscientious decisions to implement new solutions to reduce waste. As such, waste reduction is key, followed by implementing new waste management solutions, such as adopting a Zero Waste Policy and Zero Waste Strategic Plan (Action SW-2a) to guide waste reduction and establishing partnerships with unique organizations to create recycling programs for hard-to-recycle items (e.g., snack pouches), as outlined in Action SW-2b. Additionally, we will create new policies and programs to collect materials such as hazardous waste materials (Action SW-2i); establish partnerships with local businesses, nonprofits, and community groups or organizations to create pop-up repair cafes for commonly broken and easily repaired items (Action SW-2d); sponsor businesses to host refill pop-ups at community events (Action SW-2h); and partner with schools to reduce single-use foodware, convert necessary single-use plastic foodware to compostable foodware, and educate students on closing the loop (Action SW-2j).

Key Performance Indicators

- Landfilled inorganic waste (% change)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

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| SW-2a | Adopt a Zero Waste Policy and Zero Waste Strategic Plan to guide and detail methods to meet the reduction target of 35% by 2030 and 90% by 2045. Include in the Zero Waste Strategic Plan, the milestones of the Single-use Plastic Foodware and Bag Reduction Ordinance to phase in the reduction, and subsequent elimination of, single-use plastic foodware by food facilities. |
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| SW-2b | Partner with an entity such as Terracycle to create a recycling program at City-owned and operated buildings and other community-based locations to collect hard to reuse/recycle products, such as snack pouches. |
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| SW-2c | Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, engage local home improvement businesses and partner with the Pinole Library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available. |
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| SW-2d | Continue the City's single-use plastic education efforts and integrate the efforts into a citywide education program, 'Pinole's Path to Zero Waste,' to expand outreach and resources about zero waste goals and focus education on specific benefits to the City (e.g., reduction of single-use plastic pollution flowing into Pinole Creek and San Pablo Bay, community savings from reduce and reuse efforts). |
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| SW-2e | Partner with community-based organizations such as ReThink Disposables and RecycleMore to engage the Bayfront Chamber of Commerce members and other Pinole businesses to educate the business community about the benefits of reusables and inform them about the new Single-use Plastic Foodware and Bag Reduction Ordinance. |
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| SW-2f | Work with compostable distributors to achieve competitive pricing for compostable foodware to increase compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance . |
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| SW-2g | Sponsor businesses to host refill pop-ups at community events (e.g., Farmers Market) where community members can purchase common household products and food in bulk using their own containers and create a network of local businesses that can provide local, bulk products with zero-waste packaging. |
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| SW-2h | Secure financial grants and assistance from Rethink Disposables, CalRecycle's City/County Payment Program (CCPP), and others, to support businesses in developing pilot programs for reusable and returnable foodware and drop-off stations, purchasing and installing dishwashers, and overall gaining compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance. Highlight and support use of new grant funds available for small and minority-owned businesses to participate. Additionally, seek grant funding to support pop-up repair cafes and a tool lending program. |
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| SW-2i | Create a Hazardous Waste Material Reuse Program that offers usable household hazardous waste collected at the West Contra Costa County Drive-Through to the community free of charge through a Material ReUse Store. Establish a schedule and location(s) to operate the Material ReUse Store alongside the household hazardous waste collection schedule and promote the store on the City's website and on the City's social media platforms. |
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| SW-2j | Partner with public schools to reduce single-use plastic foodware, convert necessary single-use plastic foodware to compostable/reusable foodware, and educate students on closing the loop (i.e., Loop organics). |
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- 62
- Page 385 of 945



Solid Waste

SW-3

Meet CalGreen’s current 65% construction and demolition materials diversion requirements on all covered projects.



Because current best practices for emissions inventories and reduction plans do not consider lifecycle emissions, this measure will not result in direct GHG emissions attributable to the City, however, this measure aligns with the CALGreen requirements for construction and demolition (C&D) diversion. C&D materials consist of approximately 12 percent of California’s current (2021) waste stream and include carpet, wood, aggregate, paint, shingles, and wallboard, as well as other materials that could be generated during site work and clearing processes, such as plastics (e.g., PVC pipes, packaging, etc.), glass, yard waste, and corrugated cardboard from packaging.³⁶ CalGreen mandates locally permitted building construction, demolition, and certain additions and alteration projects recycle and/or salvage for reuse a minimum 65 percent of the nonhazardous C&D debris (CALGreen sections 4.408, 5.408, 301.1.1 and 301.3).³⁷ To comply with these requirements, the City of Pinole has established a template to be submitted with each building permit that provides a “Construction Waste Management Plan” (CWMP).³⁸ To streamline submittal and compliance with the City’s Municipal Code, there are three options to satisfy the requirements, as outlined in the CWMP, which include submitting a completed CWMP, using a waste management company that certifies a minimum of 65 percent diversion, or a waste stream reduction option that allows for a calculation. Implementation of this measure will help the City and contractors continue to meet the C&D diversion requirements.

36. <https://calrecycle.ca.gov/condemo/>

37. <https://calrecycle.ca.gov/lgcentral/library/canddmodel/>

38. [https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/C&D%20Waste%20Management%20Forms%20\(Autosaved\).pdf](https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/C&D%20Waste%20Management%20Forms%20(Autosaved).pdf)

Key Performance Indicators

- C&D diversion rate (%)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

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- SW-3a** Include in, or amend, the franchise agreement with the City's waste hauler to require construction and demolition (C&D) diversion requirements with performance disincentives for non-compliance.
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- SW-3b** Partner with RecycleMore and the City's waste hauler to complete an assessment of projects that were not compliant with the CalGreen C&D 65% diversion requirement. Determine an Action Plan to ensure similar future projects meet the 65% requirement. Complete ongoing review of projects collaboratively with RecycleMore to assess projects that are non-compliant and methods to ensure 65% diversion requirements are met.
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- SW-3c** Fully engage and inform permit applicants of the 65% requirements at the very beginning of the planning, building, and inspection process and collaborate with RecycleMore to integrate C&D diversion practices into the City's permit process.
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- SW-3d** Create and distribute a Contractors Guide to educate contractors on the requirements to meet the program conditions that include pre-permit documentation weight tags, post-permit documentation, and consequences for not meeting minimum diversion requirements.
-
- SW-3e** Update C&D information on the City's website to include a more complete comprehensive list of documents, such as:
- Pre-permit requirements
 - Green Halo system requirements
 - Locations for C&D materials processing/diversion
 - Weight tag requirements
 - Post project requirements and signature
 - Details regarding consequences for not meeting requirements.
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- SW-3f** Partner with the City's waste hauler, RecycleMore and other C&D organizations to educate on best practices for meeting CalGreen 65% requirements as part of Program 9 in the Housing Element.
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- SW-3g** Use financial grants and assistance from CalRecycle to fund and provide tools for low- and fixed-income projects to meet requirements.
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- SW-3h** Continue to offer online-waste tracking options for the community through the Green Halo compliance system, or a similar system, which allows for receipts to be verified online, streamlining the processes substantially
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Solid Waste

SW-4

Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.



The Pinole-Hercules Water Pollution Control Plant (WTP) was built in 1955 as a primary treatment facility and has undergone two major expansions and several modifications to meet the growing demands of the community.³⁹ Currently, the WTP treats all the residential and commercial wastewater generated in Hercules and most of the wastewater generated in Pinole, serving a combined population of approximately 40,000, with an average daily flow of 3.5 million gallons. The WTP removes solids and sanitizes the water, then discharges the clean wastewater into the Bay. Currently, solid materials are pumped into an anaerobic digester where methane gas is generated as well as heat as a byproduct. The methane gas is used to power the on-site cogeneration that provides electricity to the WTP, and the heat is captured and used to heat the digesters. To analyze the potential waste volume and assess facility upgrades needed to complete a pilot Organics to Energy Project, a feasibility study will be conducted to identify potential partners, waste volume, and necessary facility upgrades, as well as cost and GHG emissions reduction potential (Action SW-4a). In tandem with the completion of the feasibility study, the City will partner with an organics to energy company to help assess the feasibility of a pilot (Action SW-4c). This supports California's goals established in SB 1383 because biosolids are considered in the overall goal of 75 percent diversion and biosolids which are anaerobically digested and/or composted and land applied constitute a reduction in landfill disposal per the California Code of Regulations Section 18983.1(b)(6)(B).⁴⁰

³⁹ https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant

⁴⁰ <https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-7-department-of-resources-recycling-and-recovery/chapter-12-short-lived-climate-pollutants/article-2-landfill-disposal-and-reductions-in-landfill-disposal/section-189831-landfill-disposal-and-recovery>

Key Performance Indicators

- Feasibility study status

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

SW-4a

Complete a feasibility study to identify local partners, analyze the potential waste volume, and assess facility upgrades needed to complete a pilot Organics to Energy Project at the WWTP and the potential cost and GHG emission reduction impacts of such a project.

SW-4b

Conduct case study assessments of other organics to energy projects at WWTPs to educate City decision makers, the public, and other interested parties on the feasibility of the pilot project and collaboratively with RecycleMore to assess projects that are non-compliant and methods to ensure 65% diversion requirements are met.

SW-4c

Partner with an organics to energy company to help assess the feasibility of a pilot project for the City and impacted communities.

SW-4d

Pursue funding opportunities (e.g., CalRecycle) and financing alternatives to address capital costs for the pilot project.



Solid Waste

SW-5

Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.



In addition to reducing organic waste generated, beginning in 2022, Senate Bill (SB) 1383 requires jurisdictions annually procure 0.08 tons of compost per capita. Meeting this annual procurement target provides Pinole with an opportunity to reduce GHG emissions, leverage economic development, and foster environmental benefits. Applying compost to City lands (e.g., parks, recreation areas, schools' landscape, and school gardens) is an effective way to sequester carbon by storing it in the soil rather than releasing it to the atmosphere. Compost also provides additional environmental benefits including improving soil health, increasing water conservation, and providing erosion control—all of which can be important benefits for community parks, institutions, and other natural working lands. Distribution of materials would be accomplished by establishing programs to procure and provide compost for City facilities, community garden organizations (e.g., Pinole Garden Club), and residential and commercial landscapers. Additionally, a program would be established to deliver compost to local schools and community organizations. As part of this measure, the City will develop an online mapping tool that will be used to identify existing community gardens in Pinole and provide a list of potential underused park space for expansion (Action SW-5h).

Key Performance Indicators

- Annual compost procurement (tons)

Emissions Reductions

2030: 425
2045: 513

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cleaner air/water



Improved accessibility



Disaster preparedness, safety, and resilience



Cost savings



More green spaces



Improved economy



City of Pinole Climate Action and Adaptation Plan (CAAP)

SW-5a

Establish a program to procure and provide compost for:

- The City's parks, recreation areas, schools' landscaping, and school gardens (where possible, identify opportunities to utilize the online mapping tool included in Action SW-5h to map out additional locations for application)
- Garden community organizations such as the Pinole Garden Club
- Residential and commercial landscapers

SW-5b

Amend or otherwise ensure that the Franchise Agreement for the City's waste hauler will provide organic waste products at reduced cost.

SW-5c

Establish a new program to deliver compost to local schools and community organizations. Expand free compost giveaways to residents, local urban farmers, and other organizations. Track the success of the program based on tons of compost given away and promote the program on the City's CAAP website and through the City's social media channels.

SW-5d

Complete a feasibility study in collaboration with RecycleMore to identify cost-effective end uses for organic waste products and methods to distribute the products.

SW-5e

Using established education materials from RecycleMore and other organizations, provide outreach and education to community organizations such as the Pinole Garden Club, in addition to Homeowner's Associations, resident groups, and commercial landscapers in Pinole on the benefits of using organic end products such as compost and mulch.

SW-5f

Partner with the City's waste hauler, or others who own large composting operations in close proximity to the City, to provide organic end product to the community at a cost-effective rate.

SW-5g

Use funds from the SB 1383 fee to pay for a portion of organic end use products. Use financial grants and assistance from CalRecycle to fund the purchase of organic end product. Focus effort on lower income projects to participate in program.

SW-5h

Establish an online mapping location hosted on a City website to identify existing community gardens and make a list of potential underused park space for expansion, setting internal key performance indicators for an appropriate number of new garden spaces.



Water

- W-1** Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.
- W-2** Increase the community's use, supply, and access to recycled water.



Water

W-1

Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.



Water use generates GHG emissions through the consumption of energy to transport, treat, and distribute water. The interconnection between energy and water is considered the water-energy nexus. Reducing potable water consumption would, therefore, also reduce energy use. Climate change will continue to bring increased patterns of extreme precipitation, followed by drought. This new reality underscores the pressing need for communities to take proactive steps to reduce water consumption. By reducing community water consumption, we can help to preserve and protect this precious resource, establishing long-term availability and sustainability. Moreover, reducing water consumption can also lead to significant cost savings for both residents and businesses alike, as lower utility bills can translate into real monetary savings. Implementation of this measure will be achieved through adopting a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies (Action W-1b). Additionally, we will complete a feasibility study as well as an economic study associated with adopting a Dual Drainage Plumbing Ordinance (Action W-1c). Water conservation fixtures and fittings will continue to be provided at low/reduced/no costs through partnerships with EBMUD, as well as rebates for appliances.

Key Performance Indicators

- Per capita potable water consumption (% change)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

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| W-1a | Continue to implement and enforce Pinole Municipal Code Chapter 15.54 (Water Efficient Landscaping) to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf. |
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| W-1b | Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies. The Ordinance will focus primarily on domestic water use, health and sanitation, and fire protection. |
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| W-1c | Perform a study to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance. The feasibility study will help the City determine the size threshold for future development projects subject to the Ordinance. |
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| W-1d | Upon completion of the Feasibility Study in Action W-1c, adopt an appropriate Dual Drainage Plumbing Ordinance. |
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| W-1e | Continue to comply with SB 1087 and Municipal Code Chapter 17.32 (Affordable Housing Requirements) requirements to provide priority water and sewer service allocations to affordable housing developments. |
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| W-1f | Continue to partner with East Bay Municipal Utility District's to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pinole, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens. Provide specific updates to the community as new programs are released, such as featuring a new indoor plumbing program to help Customer Assistance Program participants find and fix indoor leaks. |
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| W-1g | Implement a comprehensive, coordinated educational initiative focused on property owners, landlords, property management firms, homeowners' associations, and occupants to reduce water usage in homes and businesses. This campaign will incorporate the water conservation messaging of the East Bay Municipal Utility District (EBMUD), utilizing various communication channels such as publications, websites, community events, workshops, and bill inserts. It will also provide details on available incentives for water-saving appliances, fittings, fixtures, and efficient landscaping irrigation systems, including those offered by EBMUD. Additionally, the campaign will focus on reaching disadvantaged and vulnerable communities to alleviate the burden of utility bills. |
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| W-1h | Partner with EBMUD, the Contra Costa Master Gardeners, and/or Pinole Garden Club to develop community programs to encourage water-wise landscaping and watering practices and to provide a hands-on learning experience such as sheet mulching lawn conversions for members of the community. Include promotion of EBMUD Lawn Conversion rebates. |
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| W-1i | Continue to partner with Rising Sun to provide Green House Calls to residents to provide high-efficiency fixtures/fittings and leak detection tests. |
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| W-1j | Work with EBMUD to provide existing commercial entities that have decorative or non-functional turf onsite with the education and resources necessary to transition to regenerative landscapes with a goal of replacing all existing commercial decorative or non-functional turf by 2030. |
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- Page 394 of 945



Water and Wastewater

W-2

Increase the community's use, supply, and access to recycled water.



Increasing recycled water use in the City can increase adaptive capacity while providing environmental and economic benefits. Recycled water can serve as an additional water supply that can be utilized during times of extreme drought or water scarcity. Therefore, as the first step, the City will continue to work with EBMUD to complete a feasibility study to identify opportunities to increase supply of recycled water to the City (Action W-2a). Using recycled water can reduce the environmental impact of upstream water processes when compared to those for “new” water — such as extraction or the energy used to pump and deliver water long distances. When used to replace existing drinking water supplies for non-potable uses (e.g., irrigation and industrial uses), recycled water can lower water utility bills. Additionally, recycled water can be used for groundwater recharge which helps replenish depleted aquifers and plays a crucial role in enhancing water availability during drought periods and mitigating the effects of over-extraction. By injecting treated recycled water into underground aquifers, the natural storage capacity of groundwater is replenished, creating a sustainable and reliable source of water for future generations. These characteristics equate to a dependable and affordable water supply that provides local businesses with an incentive to remain in the City.

Key Performance Indicators

- Recycled water use (% change)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

W-2a

Continue to work with EBMUD to complete a feasibility study to identify opportunities to increase supply of recycled water to the City. The feasibility study will:

- Analyze opportunities to expand purple piping infrastructure
- Identify opportunities and technologies to increase recycled water supply
- Evaluate potential impacts to cost of service
- Investigate ways to maintain or decrease costs of service through the project
- Identify customers that would benefit from receiving recycled water within City of Pinole such as industrial uses or parks and adjacent to the City, in Hercules or other surrounding jurisdictions, as applicable

W-2b

Pursue funding opportunities at the state and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to fund recycled water infrastructure and to increase the equitable distribution of recycled water in the City.

W-2c

Investigate working with EBMUD to promote the installation of greywater equipment in homes and businesses through a multi-lingual Laundry-to-Landscape outreach campaign. The campaign shall include:

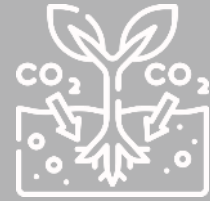
- Educational information on the environmental and financial benefits of greywater systems
- Information on how to install and use the systems, including information on EBMUD greywater rebates
- Distribution of educational materials at the City's permitting counter
- Supplemental event(s) hosted with EBMUD or industry expert to educate community members on the installation and use of the systems, including an existing residential greywater system demonstration
- Direct outreach to multi-family property owners.

W-2d

Create and implement a phased outreach campaign to educate the community on the benefits of recycled water as well as dispelling misconceptions to and increase community use.

W-2e

Upon completion of the feasibility study to identify opportunities to increase supply of recycled water to the City, work with EBMUD to develop a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used.



Carbon Sequestration

- CS-1** Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.
- CS-2** Increase nature-based and technological carbon sequestration opportunities in Pinole.



Carbon Sequestration

CS-1

Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.



To help sequester GHG emissions in the City and increase resilience to extreme heat events, there are long-term preventative strategies that we can employ such as the strategic planting of trees and vegetation cover. The Community Urban Forest Plan will include an inventory of the existing urban forest as a baseline and identify areas in Pinole that have below average canopy coverage (Action CS-1a). Once identified, a phased timeframe will be developed to implement a planting program focused on eliminating significant differences in tree canopy coverage between census blocks. In addition to increasing tree canopy, this measure will also increase and protect biodiversity – which is central to California, as the state contains some of the highest rates of native and endemic species in the world.^{41, 42} The City of Pinole, along with the rest of North America’s Pacific coast is considered the California Floristic Province hotspot, which contains a wide variety of ecosystems as well as species that evolve and live only in those spaces. In that same vein, pressures from human populations have rendered California one of the four most ecologically degraded states in the United States of America. Therefore, this effort works to preserve the urban forest canopy and continue to provide carbon sequestration value as trees mature. A diverse and resilient ecosystem fosters ecological balance, enhances pollination of crops, provides essential ecosystem services, supports sustainable agriculture, and contributes to the overall stability of ecosystems, ultimately benefiting human health, food security, and the long-term sustainability of our communities.⁴³

⁴¹ <https://calrecycle.ca.gov/condemo/>

⁴² <https://calrecycle.ca.gov/lgcentral/library/canddmodel/>

⁴³ [https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/C&D%20Waste%20Management%20Forms%20\(Autosaved\).pdf](https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/C&D%20Waste%20Management%20Forms%20(Autosaved).pdf)

Key Performance Indicators

- Trees planted (#)
- Standard deviation in canopy coverage across census blocks (#)

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

CS-1a

Develop and adopt a Strategic Tree Plan by 2026 to identify and prioritize tree planting areas in the City. The Plan will:

- Inventory the existing urban forest as a baseline and identify areas in Pinole that have below average canopy coverage (such as census block groups 60133640021, 60133640023, and 60133922004) and high urban heat island effects.
- Design a tree planting program focused on eliminating significant difference in canopy coverage between census blocks by 2040.
- Identify a phased timeframe for program implementation.
- Establish a management plan for existing trees that will focus on promoting street tree health, enhancing resilience, increasing the environmental benefits and co-benefits from trees, and engaging the community in urban forest management.
- Establish a tracking system to assess progress towards annual goals and annual benchmarks.

CS-1b

Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the Urban Forest Inventory and Management Plan and share the plan on the City's website.

CS-1c

Continue protecting existing trees on private property through the provisions of PMC Chapter 17.96 (Tree Removal) and continue to enforce the Municipal Code Chapter 17.996, which requires either planting on-site replacement trees or paying an in-lieu fee equal to at the value of the protected tree as a condition of approval when a Tree Removal Permit is issued, among other requirements.

CS-1d

Prioritize tree planting in areas with populations most at risk to extreme heat impacts (older adults, children, outdoor workers, individuals with disabilities, transit dependent individuals, and individuals with chronic health conditions) pursuant to the Urban Forest Inventory and Management Plan.

CS-1e

Review, enhance, update, and regularly maintain the City's existing "Tree" webpage with relevant information, such as best practices for watering and fertilizing trees, guidelines for pruning and maintenance, information on local tree species, and resources for reporting tree damage or disease. Additionally, provide information on the benefits of a healthy tree canopy, including improved air and water quality, reduced urban heat island effects, and increased property values.

CS-1f

Amend the Municipal Code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment.

CS-1g

Continue to pursue and obtain grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Cal Fire's Urban and Community Forestry Program, and the California Natural Resources Agency's Urban Greening Program) available grants for tree planting and urban greening projects.

CS-1h

Develop a City incentive program for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below-average tree equity or canopy coverage, pursuant to the Urban Forest Inventory and Management Plan.



City of Pinole Climate Action and Adaptation Plan (CAAP)

CS-1i

Partner with a local nursery to host regular tree planting events and volunteer opportunities to engage community members in the effort to maintain and expand the local tree canopy.

CS-1j

Work with a community non-profit organization to develop an adopt a tree program increase the urban tree canopy in marginalized communities

CS-1k

Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing and planting trees in prioritized areas pursuant to the Urban Forest Inventory and Management Plan, paying for tree maintenance in disadvantaged and vulnerable communities in the City, or supporting staff resources for the Urban Forest Management Program.



Carbon Sequestration

CS-2

Increase nature-based and technological carbon sequestration opportunities in Pinole.



Carbon sequestration is the capturing, removal, and storage of CO₂ from the Earth's atmosphere.⁴⁴ Nature-based carbon sequestration, or biologic carbon sequestration, opportunities include regrowing forests and trees, restoring wetlands, and implementing processes to increase soil health and absorption capacity. Technical carbon sequestration includes direct air capture, a system in which carbon is directly captured from the air using an industrial process.⁴⁵ Engineered molecules, such as those that could be used in concrete production are another form of technical carbon sequestration that might be viable in the City of Pinole. The City will build off of the work done by the Contra Costa County Resource Conservation District and complete an evaluation of the carbon stock in the City's existing blue carbon ecosystems (e.g., eelgrass in San Pablo Bay; Action CS-2a). Additionally, implementation will include establishing partnerships with concrete producers to research opportunities for technological carbon sequestration in Pinole including potential funding mechanisms (Action CS-2b). A multi-lingual, jargon-free educational campaign will be created to support these initiatives and clearly explain the opportunities and benefits of carbon sequestration in the City to confirm community members are informed.

⁴⁴ <https://calrecycle.ca.gov/condemo/>

⁴⁵ <https://calrecycle.ca.gov/lgcentral/library/canddmodel/>

Key Performance Indicators

- Established quantitative carbon sequestration target to be achieved by 2045

Emissions Reductions

Not Quantified

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

CS-2a

Seek funding to conduct a study to quantify the carbon stock in existing Pinole blue carbon ecosystems (e.g., eelgrass in San Pablo Bay) and quantify the carbon sequestration potential of blue carbon restoration and expansion.

CS-2b

Partner with concrete producers to research opportunities for technological carbon sequestration in Pinole including potential funding mechanisms (e.g., Verra's Methodology for CO₂ Utilization in Concrete Production).

CS-2c

Based on the studies, develop a plan to increase carbon sequestration in Pinole. The plan shall include a quantitative carbon sequestration target to be achieved by 2045 and a process for regular monitoring of carbon stocks.

CS-2d

Create an educational campaign that informs members of the community about the benefits and methods associated with carbon sequestration and capture that avoids jargon and clearly explains the opportunities and benefits in the City. Confirm that the educational materials are provided in a multi-lingual, culturally considerate manner and distributed specifically to disadvantaged community members.



City Infrastructure and Operations

- CIO-1** Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.
- CIO-2** Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.
- CIO-3** Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.
- CIO-4** Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.
- CIO-5** Reduce municipal water consumption 15% by 2030, from 2019 levels.
- CIO-6** Reduce organic waste by 10% by 2025, from 2019 levels and landfill zero waste by 2035.
- CIO-7** Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.



City Infrastructure and Operations

CIO-1

Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.



As a leader in climate action and resilience, the City understands the importance of procuring carbon free or 100 percent renewable electricity and prioritizing the electrification and decarbonization of all City buildings to mitigate GHG emissions from the built environment while improving indoor air quality. Therefore, as a first step, an electrification ordinance would be adopted that requires new municipal construction to be fully electric without any natural gas connections. Although the ordinance would apply to new developments, existing municipal buildings and facilities must also be electrified and utilize carbon free and renewable energy. To understand the needs of existing buildings, an audit would be completed that identifies all fossil fuel-powered equipment and then a replacement schedule would be established. This measure would be supported by a City Council resolution to require electrification of all municipal buildings by 2035, ten years ahead of the communitywide goal.

Key Performance Indicators

- Municipal accounts enrolled in MCE Deep Green option (%)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-1a** Adopt an electrification ordinance in 2024 requiring all new municipal construction to be fully electric after calendar year 2024 without any natural gas connections.
-
- CIO-1b** Complete an analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system at the Swim Center. Pursue replacement funding through PG&E on-bill financing and California Energy Commission (CEC) 1% Loans.
-
- CIO-1c** By 2025, adopt a Resolution requiring the implementation of a building and facility electrification plan to electrify or otherwise decarbonize all municipal buildings by 2035.
-
- CIO-1d** Develop a plan to electrify or otherwise decarbonize all municipal buildings and facilities by 2035 which will include:
- An inventory of existing fossil fuel-powered buildings and facility equipment, available electric or zero/low-carbon alternatives for replacing each, and relevant costs and benefits of replacing each (e.g., lifespan, equipment costs, operational quality).
 - A prioritized schedule for completion based on potential to reduce natural gas and propane usage.
 - Prioritize upgrades that benefit vulnerable communities first, such as the Library, Senior Center, Youth Center, and Tiny Tots facilities.
-
- CIO-1e** Expand efforts to obtain funding for municipal building and facility decarbonization through grants, incentives, or financing provided by entities such as:
- DOE Block Grants
 - Leases: Capital lease, Operating Lease, Tax-Exempt Lease purchase (4-5%)
 - Loans and Grants: 1% CEC Loan, Dept. of Energy Grants, Federal Grants (IIJA, IRA)
 - On-Bill Financing
 - Energy as a Service (EaaS)
 - Energy Savings Performance Contract (ESPC, guaranteed energy savings help pay for the project) from Energy Service Companies (ESCOs)
 - Grant Anticipation Notes or other Short-Term Notes/Loans
-
- CIO-1f** Upgrade all municipal electricity accounts to MCE Deep Green by 2025.
-
- CIO-1g** Plan, fund, and conduct an electrification pilot project at a municipal facility (e.g., the Senior Center). Promote the demonstrated benefits of the fully electric building (e.g., cost-savings, GHG emission reductions) and publicize the planning, design, installation, and post-operation of the project to make the steps to electrification transparent to the community.
-
- CIO-1h** Partner with regional organizations such as the Building Decarbonization Coalition to train City staff, community members and volunteers on the benefits and technical requirements of electrification, help them implement the building and facility electrification plan and empower them to be advocates for electrification across the community.
-



City Infrastructure and Operations

CIO-2

Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.



The City of Pinole operates a variety of on-road gasoline and diesel-powered fleet vehicles for different uses throughout the City such as code compliance, Public Works inspections, and more traditional service trucks for landscaping, maintenance, and transportation of materials. The California Air Resources Board released the Advanced Clean Fleets (ACF) Regulation, which requires that at least 50 percent of vehicle purchases are ZEVs by 2024 and all new purchases are ZEVs by 2027.⁴⁶ The City currently has a vehicle replacement schedule that will be reviewed and updated bi-annually. As part of this, the existing charging infrastructure will be analyzed and a Municipal Electric Vehicle Infrastructure Plan will be prepared to create a prioritized list of City-owned properties/locations to install new Level II and DC Fast chargers, an assessment of future electricity demand and potentially energy-constrained locations, and a pathway to coordinate with PG&E on installing microgrids or back-up power at City-owned properties to support the ZEVs.

⁴⁶ <https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-summary>

Key Performance Indicators

- Fleet vehicles decarbonized (% of total fleet)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

CIO-2a

Expand and update the City's fleet vehicle replacement schedule to transition 30% of the municipal vehicle fleet to ZEVs by 2026 and 100% by 2040. Review the replacement schedule and ZEV transition goals every 2 years and update them as needed based on updates to state regulation and ZEV market availability.

CIO-2b

Complete a Municipal Electric Vehicle Infrastructure Plan to analyze the City's charging needs through 2026 and 2040. The plan shall include:

- A prioritized list of City-owned properties/locations to install new Level II and DC Fast chargers
- An assessment of future electricity demand and potentially energy-constrained locations
- A pathway to coordinate with PG&E on installing microgrids or back-up power at City-owned properties to support the ZEVs

CIO-2c

Secure funding from state programs (such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program) and federal sources to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally, explore opportunities for Low Carbon Fuel Standard credit generation from use of low carbon fuels/electricity for fleet vehicles.

CIO-2d

Dedicate staff time to implementing, tracking, and updating the City fleet vehicle replacement plan bi-annually.

CIO-2e

Partner with an entity such as Contra Costa Transportation Authority, to train City staff on the use and charging of electric and zero-emission vehicles and educate them on the benefits of EVs/ZEVs.

CIO-2f

Consider highlighting the City's EV/ZEV fleet at community events such as Earth Month.

CIO-2g

Establish electric vehicle charging infrastructure at and around all City-owned facilities. Apply the profit from community charging towards installing electric vehicle infrastructure in vulnerable communities. Additionally, develop a thoughtful pricing plan that is reviewed and updated annually, or more frequently as appropriate.



City Infrastructure and Operations

CIO-3

Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.



Pinole operates off-road equipment (e.g., lawn and garden equipment as well as other outdoor power equipment) to maintain landscaping, parks, and open space, among other things. In terms of air quality, reducing off-road emissions will be significant. Based on current technologies, operating a lawn mower for one hour generates the same smog-forming pollution (air pollutant) as driving a new light-duty passenger approximately 300 miles, and as mentioned above under Measure TR-6, commercial blower generates the same amount of emissions as driving a new light-duty passenger vehicle approximately 1,000 miles.⁴⁷ Therefore, CARB adopted emissions standards for Small Off-Road Engines (SORE), which sets a goal to transition off-road vehicles and equipment operations to 100 percent zero-emission by 2035 where feasible. To establish a clear path towards decarbonization, the City will first complete an inventory of all existing off-road equipment and determine which equipment types are possible to decarbonize based on existing technologies, as well as prepare a cost analysis and schedule for decarbonization (Action CIO-3a). As technology advances, there will be additional opportunities to decarbonize larger or more unique pieces of equipment in the future.

⁴⁷ <https://ww2.arb.ca.gov/resources/fact-sheets/sore-small-engine-fact-sheet>

Key Performance Indicators

- Off road equipment decarbonized (%)

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-3a** Complete an inventory of all municipal off-road equipment every three years and determine which equipment types are possible to decarbonize based on existing technologies. Complete a cost analysis and schedule for decarbonizing.
-
- CIO-3b** Adopt an emissions-free equipment purchasing policy by 2025 for light-duty vehicles and small off-road equipment and vehicles to require purchase and replacement of such categories be electric or emissions-free. Regularly update the policy to include more types of equipment and vehicles as electric and emission-free options become available. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives as well as the health benefits, for residents and businesses.
-
- CIO-3c** Dedicate staff time to implementing and tracking the success of the emissions-free purchasing policy established as part of CIO-3b.
-
- CIO-3d** Dedicate staff time and pursue funding opportunities to electrify and otherwise decarbonize municipal off-road equipment through programs such as:
- CORE Incentives
 - Bay Area Air Quality Management District (BAAQMD) incentives including the Carl Moyer Program
-
- CIO-3e** Partner with the East Bay Regional Park District to co-lead a multi-lingual educational program for staff and City contractors detailing the benefits of using decarbonized off-road equipment, with an emphasis on improved worker health and details on comparable equipment productivity. Information from the educational program should be summarized into an infographic format and posted at parks, City-owned and operated buildings, and shared in the City's newsletter to highlight the emissions and overall health benefits in a way that is easily understood.
-
- CIO-3f** By 2030, begin procuring biofuels (e.g., biodiesel and biogas) to operate municipally owned off-road equipment with no existing opportunities for electrification. Re-evaluate electrification opportunities regularly to ensure biofuels are not being used for equipment that could otherwise be electrified.
-



City Infrastructure and Operations



CIO-4

Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.

The City will actively work to lead by example and reduce the number of fossil-fueled single-occupancy-vehicle (SOV) employee commute trips annually. Like Measure TR-3 for the community, emissions reductions from this measure would occur through the development of a municipal TDM Plan, which will be based on input from City staff. As part of the TDM Plan development, the City will create an incentive program to reward City employees for biking, ridesharing, and using public transit to commute to work. Additionally, recognizing that maintaining in-person presence at City Hall and other City offices is important, the occasional ability to work from home allows for a more flexible and adaptive approach. Therefore, this program will also include development of a remote work policy and annual surveys to monitor implementation of the TDM Plan. The TDM Plan will also be available on the City's website and distributed to local businesses to provide the community with an example of comprehensive TDM plans that focused on GHG emission reductions and equity. Based on a 2021 employee commute survey, most City employees drove alone to and from work, with approximately 25 percent of respondents live within six miles (one way) of City Hall.

Key Performance Indicators

- Development of a Municipal TDM Plan

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-4a** With employee input, develop a municipal Transportation Demand Management (TDM) Plan by 2028 to encourage and incentivize City employees to reduce their VMT in single-occupancy and fossil-fuel-powered vehicles. Update the plan every 2-3 years based on survey results (e.g., Action CIO-4d) and newly available public transit and bike routes in the community.
-
- CIO-4b** Create an incentive program to reward City employees for biking, ridesharing, and using public transit to commute to work. The program shall provide free public transit passes and free access to electric bicycle programs (where available) to all municipal employees and may include cash incentives or additional paid time-off for employees who bike, rideshare, and use public transit to commute to work.
-
- CIO-4c** Investigate the opportunity to create zero-interest loan program to help employees purchase ZEVs for commute.
-
- CIO-4d** Develop a remote work policy that encourages municipal office employees to work from home and includes alternative work schedules where feasible.
-
- CIO-4e** Explore options for installing showers in existing City-owned facilities and bike lockers along City-owned streets, where appropriate, to encourage City employees to bike to work and demonstrate the City's commitment to sustainability and community bicycle safety.
-
- CIO-4f** Partner with an entity such as the WestCAT or the Bay Area Air Quality Management District (BAAQMD) to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools. Additionally, partner with 511 Contra Costa to help employees find a carpool match and/or develop an internal carpool match policy.
-
- CIO-4g** Promote and encourage employee participation in regional and national bike-to-work days/months.
-
- CIO-4h** Develop funding sources to support incentives for City employees to commute to work via EV/ZEV options such as free or discounted employee charging at work.
-
- CIO-4i** Publish the municipal TDM Plan on the City's website and distribute to local businesses to provide the community an example of comprehensive TDM plans that focused on GHG emission reductions and equity.
-
- CIO-4j** Conduct a survey for City staff commute data annually to monitor emissions, identify potential gaps in planning, and better understand how to elicit employee transportation behavior change. Include space for employee feedback and identification of barriers to commuting without a personal vehicle.
-
- CIO-4k** Dedicate staff time to develop, implement, and update the municipal TDM Plan and conduct the annual survey.
-



City Infrastructure and Operations

CIO-5

Reduce municipal water consumption 15% by 2030, from 2019 levels.



Reducing municipal water consumption ties directly to reducing energy use through the energy-water-nexus. Municipal water is generally used to water City-owned land including parks and medians, as well as in buildings to maintain general operations (e.g., in restrooms and small staff kitchens). Currently, the City uses a small amount of water that results in a fraction of emissions. However, it is important for us to identify opportunities to lead by example at the City-level and showcase how we can make meaningful, realistic change together. Implementation of this measure will include completion of an indoor and outdoor water audit of all municipal buildings, then development of a schedule to implement identified water efficiency improvements (Action CIO-5a). An update to the municipal purchasing policy would also be made to require WaterSense labeled fixtures and appliances (Action CIO-5c). Additionally, this measure would include submetering at City owned and operated buildings and facilities to track and monitor water use, including creating a succinct way to internally track specific use and complete repairs or prepare targeted education (Action CIO-5h). Currently, water use is aggregated, making it difficult to understand and implement specific opportunities for improvement.

Key Performance Indicators

- Per capita potable water consumption (%)

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-5a** Conduct an indoor and outdoor water audit at all municipal buildings and schedule develop a schedule for water efficiency improvements, including water fountains, sinks, and other fixtures that have sensors and turn off automatically when not in use.
-
- CIO-5b** Adopt a Resolution and assign funding to retrofit or replace all inefficient shower heads, faucets, washing machines, and toilets with low-flow fixtures/water-efficient appliances in existing City-owned, managed, or operated facilities, such as, but not limited to, the Pinole Swim Center, Pinole Senior Center, Pinole Youth Center, and Public Service Facilities by 2030. Additionally, identify opportunities for and implement drip irrigation systems and include systems to monitor operations to reduce leaks and unnecessary watering.
-
- CIO-5c** Update the municipal purchasing policy to require WaterSense-labeled fixtures and appliances where feasible. This includes continuing to install waterless units such as urinals and sensor-activated sinks.
-
- CIO-5d** Require all non-functional lawns (i.e., grass that is ornamental and not used for recreational purposes) on City-owned property to be removed by 2035 and replaced with native and drought-tolerant landscaping and/or multi-use landscaping (e.g., pollinator-friendly landscapes, edible landscapes).
-
- CIO-5e** Identify, track, and actively pursue funding opportunities from entities such as the California Department of Water Resources and the California Environmental Protection Agency.
-
- CIO-5f** Partner with the Pinole Community Garden Club, Contra Costa County Master Gardeners, or Bringing Back the Natives to educate City employees and the community on water-wise gardening practices, native plants, and growing food, with a focus on the most vulnerable communities.
-
- CIO-5g** Develop and implement a plan to update City-owned properties with improved green stormwater infrastructure (e.g., stormwater systems that direct water towards vegetation, permeable surfaces).
-
- CIO-5h** Install submetering at City owned and operated buildings and facilities to track and monitor water use, including creating a succinct way to internally track specific use and complete repairs or prepare targeted education.
-
- CIO-5i** Install rain barrels at the Library to water the native garden as a demonstration project to educate the community about the benefits of collecting rainwater and available incentives. Based on the project's success, consider installing rain barrels at all City facilities for use in landscaping.
-



City Infrastructure and Operations

CIO-6

Reduce organic waste by 10% by 2025, from 2019 levels and landfill zero waste by 2035.



For the City, organic waste typically includes food, landscape and pruning waste, paper products, and paper. Like all municipal measures, the purpose of this initiative is to demonstrate how the City leads by example and reduces organic waste in line with or beyond the community's goals. To successfully implement this measure, we must first understand the current bin infrastructure and signage at each municipal facility and event. It has been shown that access and convenience play a big role in helping people make the best decisions. For example, a study out of the University of British Columbia found that moving landfill, recycling, and compost bins closer together resulted in an increase in recycling and composting by 141 percent.⁴⁸ The colocation of bins as well as adequate signage, which will also be analyzed as part of the audit, will increase proper disposal and reduce organic waste from landfills. Although not a direct reduction of GHG emissions for the City, we will also work with local jurisdictions including surrounding cities and the county to create an inter-office or inter-jurisdiction surplus program where City offices can provide items (e.g., pieces of furniture) for reuse for free to other offices within the City or other jurisdictions. A waste audit would be performed every two years to track the waste sources and identify any gaps in signage or education, as well as opportunities to strengthen the purchasing policy based on current best practice at that time.

⁴⁸ <https://www.sciencedaily.com/releases/2017/04/170421123255.htm>

Key Performance Indicators

- Landfill organic waste (% change)
- Landfill inorganic waste (% change)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-6a** Require implementation of the Single Use Plastic Ordinance at all City departments, events, and contracts.
-
- CIO-6b** Provide reusable mugs and foodware items to all new and existing employees in an effort to encourage the use of reusable alternatives to single-use items. Provide information on the benefits of reusing resources.
-
- CIO-6c** Complete an audit on current bin infrastructure and bin signage in each municipal facility and at City events. Establish a clear plan to install/distribute adequate compost and recycling bins throughout all facilities and to all events, and improve signage so that accepted landfill, recyclable, and compostable materials are clearly identified for each bin.
-
- CIO-6d** Partner with an entity such as the City's franchised waste hauler to provide annual training to City employees on current waste management practices, any modifications to the practices, and proper disposal methods. Empower them to educate the community on the benefits and proper methods of recycling and composting and use this as an opportunity to promote the City's existing programs, such as the free mulch program, shredding program, household hazardous waste collection, as well as expand programs as appropriate.
-
- CIO-6e** Work with CalRecycle and similar entities to identify and secure grants that fund waste diversion and educational programs.
-
- CIO-6f** Create a shared resource area within each City-owned facility dedicated to lightly used office supplies such as staplers, tape dispensers, pens, and pads of paper, facilitating the reuse of items among staff members and promoting efficiency and reducing waste.
-
- CIO-6g** Partner with local jurisdictions including surrounding cities and the county to create an inter-office or inter-jurisdiction surplus program where City offices can provide items (e.g., pieces of furniture) for reuse for free to other offices within the City or other jurisdictions.
-
- CIO-6h** Create a buy-nothing group for City staff to share resources and items that they may no longer be interested in or have a use for at their homes.
-
- CIO-6i** Perform a waste audit every two years to track waste sources, gaps in signage and education, and opportunities to strengthen the purchasing policy (e.g., based on materials continuing to the landfill or the contaminating recycling and composting streams).
-



City Infrastructure and Operations



CIO-7

Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.

As detailed in the Vulnerability Assessment prepared for the City of Pinole’s Safety Element, because the City of Pinole includes approximately 1.5-mile of coastline along the San Pablo Bay, the City is potentially vulnerable to future sea level rise. The Vulnerability Assessment notes that the City of Pinole is projected to experience significant impacts when a total water level increase of 4 - 6 feet, with 4 feet of total water level increase anticipated to result in moderate inundation at the Pinole-Hercules Water Pollution Control Plant. Additionally, the Vulnerability Assessment notes that although 4 – 6 feet of sea level rise on the upper end of what is projected to occur during the 21st century, it is possible that sea level rise combined with storm surges could contribute to temporary inundation in Pinole. As a specific example, if sea level rose 2 feet, and the community experienced a 100-year storm surge, there could be a total water level of 6 feet. Similarly, if sea level were to rise 4 feet, and the community experienced a 2-year storm event, the water level would similarly reach 6 feet. Therefore, it is important to prepare accordingly and complete a feasibility study to understand the various options related to infrastructure improvements at the Pinole-Hercules Water Pollution Control Plant to mitigate against sea level rise and flood hazards (Action CIO-7a). Implementation of this measure will occur over the longer-term, as we first understand the opportunities and then begin to work together, identify funding, and complete the necessary upgrades to the system to protect it in the long-term.

Key Performance Indicators

- Feasibility study status

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CIO-7a** Complete a feasibility study to evaluate various options for infrastructure improvements of Pinole-Hercules Water Pollution Control Plant to mitigate against sea level rise and flood hazards. Develop a long-term management plan to address impacts of sea level rise, which incorporates any potential maintenance, relocation, or retrofits and structural changes to accommodate changes in sea level.
-
- CIO-7b** Collaborate with the San Francisco Bay Regional Water Quality Control Board to increase the Pinole-Hercules Water Pollution Control Plant's resilience to sea level rise and stronger storms. For example, implement a trigger-based Coastal Hazard Monitoring Program, which would allow to implement improvements or relocate in a timely manner, and conduct feasibility studies from technical experts, retrofitting, relocating, or eliminating outfalls deemed "at risk."
-
- CIO-7c** Provide alternate routes and ensure redundancy of critical transportation routes, as possible, to allow for continued access and movement to and along the coast in instances in which sections of roadways may become temporarily impassible because of shoreline hazards. Additionally, inform City staff, residents, and visitors about alternate routes to shoreline areas.
-
- CIO-7d** Host working groups with community-based organizations, experts in the field, and interested parties to identify and prioritize vulnerable communities, involve them in decision-making, use community benefits agreements, prioritize underserved communities, and consider the financial impact on residents.
-
- CIO-7e** Identify and apply for a grant funding source to fund facility upgrades, relocation, or additional analysis through entities such as the San Francisco Bay Conservation and Development Commission, California Coastal Commission, National Oceanic and Atmospheric Administration (NOAA), or Federal Emergency Management Agency (FEMA).
-
- CIO-7f** Conduct a detailed and City-specific groundwater emergence threat assessment, factoring in local geomorphology and groundwater data, for use in future planning and analysis.
-
- CIO-7g** Incorporate policy guidance and model ordinance language in Citywide plans, policies, and regulations to prioritize strategies that reduce potential impacts due to sea level rise and shoreline hazards and increase the resilience of the City's shoreline areas.
-



City Governance

- CG-1** Build staffing capacity to effectively implement the CAAP measures and update the CAAP triennially.
- CG-2** Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.



City Governance

CG-1

Build staffing capacity to effectively implement the CAAP measures and update the CAAP triennially.



One of the first steps in establishing a culture of sustainability is building internal capacity and clearly establishing a foundation of responsibilities to consistently implement identified initiatives. This requires identifying and empowering key team members who are excited to drive sustainability initiatives forward, then providing them with the resources, training, and support needed to lead and implement the strategies effectively and efficiently. By building internal capacity, we will create a coordinated approach to sustainability that is integrated into all aspects of the City's operations. This structure not only helps to support the long-term success of the Plan, but also fosters a culture that inspires and empowers employees at all levels of the organization to contribute to climate-related efforts. Through ongoing monitoring and adaptive management, we can periodically refine and improve the initiatives included in this plan, so that they remain effective and impactful over time and any new technology, or best practices are implemented, where and when appropriate.

Key Performance Indicators

- New full-time positions (#)
- Climate Coordinators identified (% of departments)
- Annual survey responses (#)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

CG-1a

Create a new full-time staff position in the Community Development Department (such as a Sustainability Manager or Coordinator) to oversee CAAP implementation, monitoring, and reporting in addition to cross-department collaboration.

CG-1b

Identify a Climate Coordinator from each of the City's main departments and divisions. The Climate Coordinators will meet quarterly for sustainability peer-to-peer information sharing sessions to discuss challenges, brainstorm solutions, and track progress towards reaching the City's CAAP key performance indicators. This team will serve as the key organizers for cross-departmental collaboration needed to implement climate goals, as well as community contacts and key researchers for emerging technologies and best practices in climate action.

CG-1c

Conduct an annual staff survey to determine the following:

- Existing staff interest in leading climate initiatives to identify internal champions.
- Staff capacity to implement CAAP actions, monitor progress, and report updates; and associated capacity gaps to fill.

CG-1d

Include a description of Pinole's climate goals and values in job postings, improving talent acquisition and potentially boosting retention and worker morale.

CG-1e

Apply for and fund climate staffing assistance through fellowship/internship programs including the Climate Corps Fellowship, California Pacific University, and CivicSpark to increase internal staff capacity for CAAP implementation and bring in innovative ideas.

CG-1f

Earmark funding for CAAP updates.



City Governance



CG-2

Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.

Assessing, tracking, and publishing regular progress reports increases transparency and progress towards implementing the initiatives outlined in the CAAP. By doing so, it not only enhances clarity but also generates a sense of importance and urgency in achieving the goals. This measure acts as a bridge between the community and City staff, fostering a stronger connection and a sense of shared responsibility for our sustainable future. To effectively implement this measure, the City will join the Institute for Local Government's Beacon Program to support transparent reporting through access to technical assistance, regional networking and education opportunities, and opportunities to recognize Pinole's climate action achievements (Action CR-1a). Additionally, as part of this initiative, we will complete a community emissions inventory every two years and report progress on the measures annually to provide transparent project updates. Educational and informational materials will be translated to non-English languages (Action CR-2f) to provide consistent and equitable information.

Key Performance Indicators

- Completion and reporting of communitywide inventories (2 years) and municipal GHG inventories (5 years)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CG-2a** Join the Institute for Local Government's Beacon Program to support transparent CAAP reporting through access to technical assistance, regional networking and education opportunities, and opportunities to recognize Pinole's climate action achievements.
-
- CG-2b** Conduct a communitywide GHG inventory every two years and a municipal GHG inventory every five years.
-
- CG-2c** Report communitywide GHG emissions and progress on Mitigation Measures annually through public reporting tools (e.g., CAPDash) and utilize social media to post updates and results so the community can easily stay up to date.
-
- CG-2d** Regularly update Pinole's CAAP webpage, Sustainability webpages (e.g., Community Choice Energy, EV Charging Stations, Single Use Plastic Reduction), and applicable Public Works webpages (e.g., Water, Garbage and Recycling, Trees) to provide up-to-date information on ordinance, program, and policies as they are updated through CAAP implementation.
-
- CG-2e** Explore and track the success of different ways to communicate climate progress transparently to the public (e.g., a dashboard, semi-regular social media posts, City webpages, Pinole TV). Track the number of clicks made on specific links to identify the most successful mechanisms for engagement.
-
- CG-2f** Translate key climate outreach materials into non-English languages. Explore partnerships through nonprofits and other organizations that can assist in translation of key materials.
-
- CG-2g** Communicate Pinole's climate and green economic development commitments through City branding and communications (beyond dedicated webpages and resources) and utilize existing City meetings and events to emphasize the importance of climate action and bring it into regular City and community discussions.
-
- CG-2h** Earmark annual funding for the CAAP update in the budget to demonstrate commitment to implementation and monitoring and to provide a consistent conduit of funding.
-



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Adaptation

“A coordinated campaign is important, too, to show actions, completion status, and results. This should not be a “one-off,” or something siloed off from other city business; this mindset must be integrated into all city decision making and listened to and committed to...”

– Pinole Community Member





Climate Vulnerability and Adaptation Overview

Climate change is a global phenomenon that impacts local health, natural and cultural resources, infrastructure, emergency response, and many other aspects of society. Projected changes to the climate are dependent on location. As a part of Pinole's 2022-24 update of the General Plan's Safety Element, a Vulnerability Assessment was conducted to evaluate the potential impacts of climate change on community critical facilities (such as government facilities, hospitals and medical centers, police and fire stations, schools, wastewater treatment facility and transportation infrastructure) and populations. Vulnerabilities identified for Pinole were determined based on the exposure of people and critical facilities to different natural hazards and the community's

adaptive capacity, or ability to cope with and adjust to the impacts of climate change. The gaps identified between projected climate change impacts and adaptive capacity are the community's major vulnerabilities. The Vulnerability Assessment prepared for the Safety Element Update serves as a foundation for the climate adaptation strategies and actions included in the CAAP.



Key Climate Adaptation Terms

Adaptive Capacity

The ability for a community to cope with and adjust to the impacts of climate change. Actions such as setting up cooling centers and retrofitting buildings to include air conditioning increase adaptive capacity to extreme heat

Climate Hazard

A potential occurrence of climate related physical events or trends that may cause damage and loss. Climate hazards in Pinole include extreme heat, drought, flood, and landslides

Vulnerability

The propensity or predisposition to be adversely affected. Aging can change the body's ability to respond to heat, which makes older adults more vulnerable to heat illnesses during extreme heat events



Assessing Climate Vulnerability in Pinole

Scoring vulnerabilities helps to prioritize strategies and actions for adaptation. Vulnerability scores were determined as part of the Vulnerability Assessment based on a qualitative methodology outlined in the California Adaptation Planning Guide. The vulnerability score is a combination of potential impact from a climate hazard and adaptive capacity. These scores were used to identify which critical facilities and populations face the highest threat to climate hazards. Figure 12 shows how vulnerability is scored using potential impact and adaptive capacity.

Impact scores were based on data from climate models, state and Federal guidance reports, and local documentation. Pinole-specific data from Cal-Adapt were used to project changes to temperature, precipitation, and wildfire. Sea level rise projections were created with Pinole-specific data from California Coastal Commission's 2018 Sea Level Rise Policy Guidance and the National Oceanic and Atmosphere Administration's 2022 Sea Level Rise Technical Report.

The following section summarizes projected changes to climate hazards and key vulnerabilities to populations and critical facilities in Pinole.

Climate Change Impacts in Pinole

Figure 13 on the following page illustrates the projected changes and potential impacts of the key climate hazards of concern in Pinole: extreme heat, drought, flood, landslide, wildfire, and sea level rise.

"I am concerned about climate impacts of energy consumption. I have taken steps to reduce the impact of my consumption by upgrading my furnace and water heater."

– Pinole Community Member

Figure 12 Vulnerability Score Matrix

Potential Impacts		Adaptive Capacity		
		High	Medium	Low
	High	3	4	5
	Medium	2	3	4
Low	High	1	2	3
	Medium			

Figure 13 Projected Changes and Potential Impacts of these Climate Hazards

An increase from 4 to 11 days of extreme heat (days over 95°F) per year by midcentury (2035-2064).

Extreme heat can cause heat exhaustion, heat cramps, heat stroke, and other illnesses. Extreme heat generally does not result in physical damage to buildings and infrastructure, although some technology or equipment may be susceptible to damages in high temperatures. Extreme heat events can place extra stress on the power grid which can lead to power outages. The largest concern during extreme heat events in Pinole is the effects to human health, especially for vulnerable community members including older adults, young children, individuals with disabilities, and individuals dependent on medical equipment.

Wildfire intensity and frequency are expected to increase.

Wildfires can cause health and safety risks, and damage to government facilities, such as Argyle #2 Reservoir (located outside of the City's jurisdiction) Pinole Fire Station 74, Pinole Swimming Pool, childcare centers, as well as approximately 122 residential buildings in Pinole. In addition, wildfires in the region can cause degraded air quality, impacting the health and safety of the Pinole community.



Drought is expected to occur more frequently in the future.

Droughts can increase the cost of water, which can lead to financial impacts to vulnerable and low-income populations. Droughts can also dry out vegetation and soils, increasing the probability of ignition and the rate of wildfire spread, decreasing tree canopy, and increasing soil instability. Drought in the region and statewide is expected to occur more regularly in the future as a result of climate change.

Landslides are expected to increase due to extreme heat, drought, wildfire, and extreme precipitation.

Various government facilities, schools, bridges, homes, and the Kaiser Permanent Pinole Hospital are susceptible to landslides. Landslides can damage structures and lead to human injuries or mortality.

Increased likelihood of extreme precipitation.

Critical facilities such as the Pinole Library, Police Department, and Senior Center, as well as bridges citywide, are vulnerable to flooding which could become worse with larger storms. Flooding could significantly damage or cut off access to these facilities as well as lead to contaminated stormwater runoff and cause public health issues.

Sea level rise combined with projected storm surges are projected to increase water level by 6 feet, inundating coastal areas of Pinole.

In addition to flooding buildings, sea level rise can lead to a rising water table and groundwater emergence including dry weather flooding, deterioration of underground infrastructure such as water and sewer pipelines and resurfacing of underground toxic contamination. Sea level rise combined with storm surges could contribute to temporary inundation in Pinole impacting human and animal health.



Adaptation Measures

In addition to mitigating the impacts of climate change through increased GHG reduction efforts, the community recognizes that adapting to potential impacts outlined above from the changing climate, is an essential component of climate action and adaptation planning. Climate impacts will have disproportionate effects on community members and increasing community resilience in Pinole will require implementing targeted adaptation actions that focus on protecting those who face the greatest impacts. Table 9 includes climate adaptation strategies and measures aimed at each of the identified climate impacts and are designed to increase community resilience in Pinole.

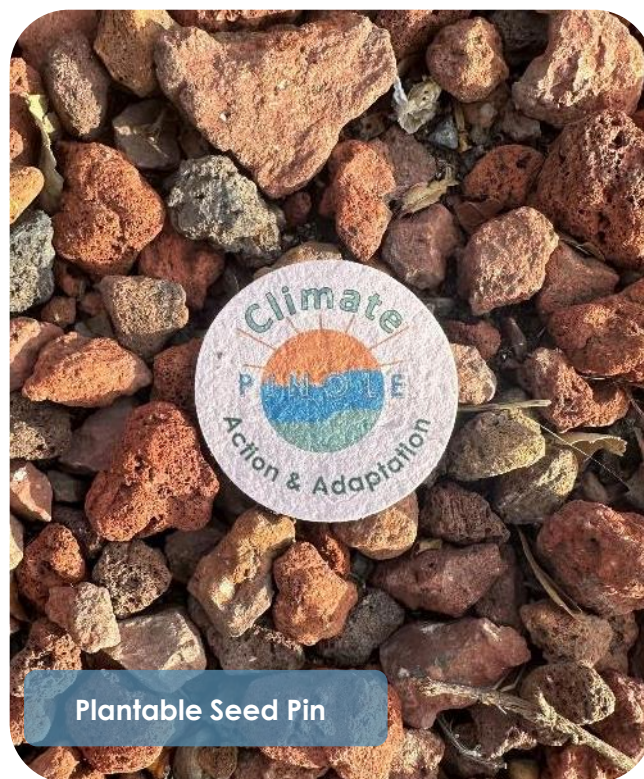
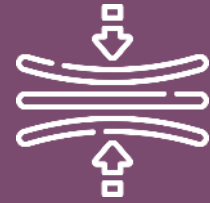


Table 9 Adaptation Strategies and Measures

Measure ID	Measure Text
Strategy CAR: Community Adaptation and Resilience	
Measure CAR-1	Establish a reliable and dependable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.
Measure CAR-2	Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.
Measure CAR-3	Create an innovative Local Hazard Mitigation Plan (LHMP) to improve Citywide disaster preparedness, plan collaboratively, increase resilience, protect infrastructure and assets, and access available funding.
Strategy FL: Flood Control	
Measure FL-1	Improve the quality of and reduce the quantity of stormwater runoff through a variety of natural and built infrastructure projects.
Strategy SLR: Sea Level Rise	
Measure SLR-1	Create, restore, and protect natural coastal ecosystems.
Strategy EH: Extreme Heat	
Measure EH-1	Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.
Measure EH-2	Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.
Strategy WF: Wildfire	
Measure WF-1	Enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers



Community Adaptation and Resilience

CAR-1 Establish a reliable and dependable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.

CAR-2 Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.

CAR-3 Create an innovative Local Hazard Mitigation Plan (LHMP) to improve Citywide disaster preparedness, plan collaboratively, increase resilience, protect infrastructure and assets, and access available funding.



Community Adaptation and Resilience



CAR-1

Establish a reliable and dependable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.

Per City guidelines, the City's established Senior Center will be opened as a cooling center if the National Weather Service (NWS) forecasts that Pinole will experience two consecutive days with high temperatures of 95 degrees or more to provide relief to community members.⁴⁹ Although the City has a centralized space for people to utilize during extreme heat events that offers air conditioning during traditional business hours, there are limitations. Establishing a comprehensive resilience center, which provides essential resources such as health programs, food, refrigeration, charging stations, basic medical supplies, and other emergency supplies, would provide relief to the community from more than just extreme heat, and include safe spaces during flooding and wildfire events, for example. This center would also support social connectedness and community climate solutions through year-round programming and be used by the City to host regular in-person events that educate the community on preparedness. As the first step in developing a more comprehensive facility, the City will conduct an assessment on the current operations as well as existing facilities that could serve as upgraded resilience centers. This would include conducting an audit on the existing heating ventilation and air conditioning (HVAC) systems at City owned facilities and replacing them on a quarterly basis. To meet the needs of the most vulnerable populations in an emergency, we will partner with WestCAT to establish a list of vulnerable community members and a program to transport them to the established resilience center(s) once available.

⁴⁹ https://www.ci.pinole.ca.us/city_government/senior_center

Key Performance Indicators

- Number of resilience centers established
- Number of people who use the resilience centers in an emergency

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CAR-1a** Conduct an assessment on the effectiveness of current City resilience center operations. Conduct a study regarding the feasibility of additional community locations (e.g., Pinole Youth Center and Pinole Library) that could serve as resilience centers by evaluating current amenities and resources available. As part of the studies, verify that the needs of vulnerable populations are met during climate hazard events and host focus groups with selected community-based organizations and other interested parties to identify needs for their service population.
-
- CAR-1b** Identify and apply for funding opportunities that support development of a resilience center, and/or staff positions to maintain the center, such as the Office of Planning and Research Regional Resilience Grant Program.
-
- CAR-1c** Utilizing the City's "Energy Conservation, Generation, and Storage Assessment" conducted in 2024, establish an upgrade and maintenance cycle, including replacement of filters with at least a MERV 11 rating on a quarterly basis for all existing HVAC systems in City owned buildings.
-
- CAR-1d** Work with WestCAT to establish a list of vulnerable community members (e.g., older adults, who may not be able to access a vehicle or public transportation during a heat wave), as well as a program to transport them to established resilience centers.
-
- CAR-1e** Provide essential resources such as food, refrigeration, charging stations, basic medical supplies, and other emergency supplies at all City resilience centers, as well as educational materials on resources and climate adaptation and preparedness. Audit and refresh supplies on a biannual basis, including information on any new or updated programs or resilience center locations.
-
- CAR-1f** Partner with local public or private entities to establish resilience centers at privately owned facilities in the City.
-



Community Adaptation and Resilience

CAR-2

Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.



Streamlined communication, meaning efficient and direct flow of information without unnecessary complexity or delays, during emergencies is crucial as it assures timely and accurate information reaches the community, enabling swift decision-making and coordinated responses. Clear, accessibly, multi-lingual communication not only helps reduce potential panic but also empowers residents with the knowledge needed to take appropriate actions, fostering a sense of trust, community resilience, and collective preparedness in the face of unexpected challenges. Initially, the City will review and update the Emergency Information webpage to reflect ways to prepare for events that may be likely to increase due to climate change, including wildfires, floods, extreme precipitation, extreme heat, poor air quality, and drought, as well as heat-related illness, exacerbate mental stress, and respiratory diseases (Action CAR-2a). As part of Action CAR-2g, the City will work with Pinole Community Television to broadcast multi-lingual consistent, clear, and reliable information to the community and Action CAR-2h aims to create evacuation procedures for vulnerable populations in partnership with community-based organizations and facilities that serve identified populations.

Key Performance Indicators

- Number of emergency alerts sent
- Working group established

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

-
- CAR-2a** Review and update the City's Emergency Information webpage to reflect ways to prepare for events that may be likely to increase due to climate change, including wildfires, floods, extreme precipitation, extreme heat, poor air quality, and drought, as well as heat-related illness, exacerbate mental stress, and respiratory diseases
-
- CAR-2b** Assess current City capacity to shelter displaced residents including facilities, infrastructure, services, and community programs during an extreme weather event.
-
- CAR-2c** Partner with community-based organizations to establish a working group to develop designated temporary housing options for wildfire displaced residents to live in for up to two years after their home is destroyed or severely damaged.
-
- CAR-2d** Require that all emergency preparedness and evacuation communications are provided in plain language and translated into Spanish, Tagalog, and Cantonese to support non or limited English speakers. Increase participation in emergency notification systems including the Community Warning System and PG&E Community Wildfire Safety Program through social media campaigns and physical flyer distribution.
-
- CAR-2e** Provide administrative support and dedicate staff time for grant writing and funding tracking for climate adaptation and resilience projects, including opportunities to increase and enhance communication such as preparation of interactive websites and information sharing resources.
-
- CAR-2f** Identify critical facilities in need of reliable sources of sustained electrical power during events of extreme climate. Assess power loads at each critical facility, determine costs and technology options for battery storage, and make any additional recommendations to the City Council prior to advancing construction.
-
- CAR-2g** Utilize Pinole Community Television (PCTV) to provide consistent information to community members about adaptation preparedness by providing multi-lingual information that is accessible for people including seniors, individuals with disabilities, children, and caregivers.
-
- CAR-2h** Create evacuation procedures for vulnerable populations in partnership with community-based organizations and facilities that serve identified populations. Host and/or participate in in-person engagement and incorporate games/activities to educate the community on preparedness.
-
- CAR-2i** Require that the City's resilience centers have adequate backup power sources and battery storage to mitigate service disruptions and provide redundancy in the event of a power outage.
-



Flood Control

FC-1 Improve the quality of and reduce the quantity of stormwater runoff through Implementation of the Pinole Green Infrastructure Plan.



Flood Control

FC- 1

Improve the quality of and reduce the quantity of stormwater runoff through Implementation of the Pinole Green Infrastructure Plan.



The City of Pinole adopted a Green Infrastructure Plan in 2019 as required by the California Regional Water Quality Control Board for the San Francisco Bay Region's (RWQCB's) Municipal Regional Stormwater Permit (MRP). Green Infrastructure is defined in the plan as the construction and retrofit of storm drainage to reduce runoff volumes, disperse runoff to vegetated areas, harvest and use runoff where feasible, promote infiltration and evapotranspiration, and use bioretention and other natural systems to detain and treat runoff before it reaches the City's creeks and Bay. The Green Infrastructure Plan outlines a pathway to shift from traditional stormwater infrastructure to more resilient, sustainable stormwater management techniques. Implementation of this measure would include preparing a feasibility study to investigate potential infrastructure improvements to relocate critical City infrastructure from the 100-year flood zone. Additionally, the City will implement the stormwater and drainage projects identified in the City Capital Improvement Plan, to mitigate localized flooding incidents and complete the Storm Drainage Master Plan to thoroughly investigate deficiencies in the existing storm drain system and prioritize infrastructure improvements. After any flooding incidents, the City will provide inspections for residents and business owners upon request and provide post-disaster home repair and technical assistance for vulnerable communities.

Key Performance Indicators

- Feasibility study status

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

FC-1a

Prepare a feasibility study to investigate potential infrastructure improvements to relocate critical City infrastructure, such as the Senior Center, Pinole Police Department, and Tiny Tots, from the 100-year flood zone. The feasibility study would include:

- Identifying potential alternative locations for the City's critical infrastructure that's located in the 100-year flood zone.
- Preliminary design and construction of new buildings or facilities.
- Analysis of costs associated with relocating facilities as well as the potential costs of doing nothing.
- Outreach to community members and other interested parties to confirm that the relocation aligns with the community's needs.

FC-1b

Continue participation in the Contra Costa County Multi-jurisdictional Hazard Mitigation Plan update; identify flood mitigation actions eligible for grant funding through FEMA hazard mitigation assistance programs.

FC-1c

Encourage landlords to consider how to prepare their properties for flooding by providing retrofit informational resources and educational materials on prioritizing low-impact stormwater best practices.

FC-1d

Create educational campaigns that connect with vulnerable populations to increase awareness and knowledge of how to mitigate and weather flooding.

FC-1e

Identify and apply for grant opportunities to fund stormwater related projects from sources such as the State Water Resources Control Board, California Natural Resources Agency, the Coastal Conservancy, California Water Foundation, as well as the United States Environmental Protection Agency and the United States Department of Agriculture.

FC-1f

Review existing best practice and conduct studies of combined riverine/ shoreline flooding and increased severity of rainfall events on watershed flooding.

FC-1g

Complete the Storm Drainage Master Plan as identified in the Capital Improvement Plan to thoroughly investigate deficiencies in the existing storm drain system and prioritize infrastructure improvements.

FC-1h

Implement stormwater and drainage projects identified in the City Capital Improvement Plan, to mitigate localized flooding incidents.

FC-1i

Conduct post-flood inspections for residents and business owners upon request and provide post-disaster home repair and technical assistance for vulnerable communities.



Sea Level Rise

SLR-1 Create, restore, and protect natural coastal ecosystems.



Sea Level Rise

SLR- 1

Create, restore, and protect natural shoreline ecosystems.



Pinole occupies a unique location on the San Francisco Bay which has been long neglected and is susceptible to coastal erosion and other impacts related to climate change. However, coastal and estuarine⁵⁰ ecosystems have the capacity to deliver a wide range of goods and services, many of which provide material benefits such as food supply, regulation of water-quality processes, storm protection, and carbon storage.⁵¹ To truly protect the natural coastal ecosystem, a shoreline stabilization study will be conducted to determine the most effective methods for protecting Pinole's communities and infrastructure from erosion and sea level rise, and to identify opportunities for restoring natural habitats that can serve as a buffer against storm surges and other impacts of climate change (Action SLR-2a). We recognize how crucial it is to provide early and ongoing education about the benefits of our surrounding ecosystems. Therefore, as part of Action SLR-2g, the City will create a partnership to establish a Shoreline Ecosystem Education and Innovation Program that will focus on educating youth in Pinole on the importance of natural ecosystems, their role in climate resilience, biodiversity, and local, native species, and also provide hands-on volunteering opportunities for the community.

⁵⁰ <https://dictionary.cambridge.org/us/dictionary/english/estuarine>

⁵¹ <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/coastal-ecosystem#:~:text=Coastal%20and%20estuarine%20ecosystems%20deliver,storm%20protection%2C%20and%20carbon%20storage.>

Key Performance Indicators

- Shoreline Stabilization Study Status

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

SLR-1a

Conduct a shoreline stabilization study to determine the most effective methods for protecting Pinole's shoreline communities and infrastructure from erosion and sea level rise, and to identify opportunities for restoring natural coastal habitats that can serve as a buffer against storm surges and other impacts of climate change. The study would involve the following:

- Assessing the physical characteristics of the shoreline
- Evaluating the potential risks and benefits of different stabilization techniques
- Engaging with local community members and other interested parties to ensure that the chosen strategies align with community needs and values.
- Prioritizing options that enhance and maximize coastal resources and access including considering innovative nature-based solution approaches.

SLR-1b

In collaboration with Contra Costa County Department of Conservation and Development and state agencies, develop a sea level rise resilience and adaptation strategy with shoreline restoration projects using innovative nature-based solutions and green engineering that would enhance public access, shoreline habitat (e.g., re-establishing native dune habitats, wetlands, and lagoons) and increase shoreline recreational opportunities.

SLR-1c

Partner with the San Francisco Bay Conservation and Development Commission (BCDC), and/or similar entities, regarding regional approaches, strategies, and mitigation actions to address sea level rise. Implement a Shoreline Management Plan, and/or a Shoreline Monitoring Program that would identify erosional hotspots and timely response.

SLR-1d

Establish annual budgets for projects within and benefiting vulnerable populations (2016, Assembly Bill 1550), including seniors, individuals with disabilities, children, low-income communities, and communities in low-lying areas.

SLR-1e

Research external funding opportunities, including grants to support shoreline resilience, shoreline restoration projects, or beach nourishment (e.g., Living Shoreline and Nature-based solution projects). Examples of grantee agencies are California Coastal Conservancy, California Coastal Commission, California Ocean Protection Council, NOAA, California Division of Boating and Waterways).

SLR-1f

Identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. Consider either the designation and zonation of lands into a Local Coastal Program or providing additional incentives to encourage creation of new recreation areas or opportunities. Additionally, plan for future shoreline recreational space and parkland by protecting open space adjacent to shoreline habitats, allowing the beach and habitats to migrate into these spaces.

SLR-1g

Partner with West Contra Costa Unified School District, private schools in Pinole, East Bay Parks, East Bay Municipal Utility District, Friends of Pinole Creek Watershed, 350 Contra Costa, or similar entities to create educational opportunities for the community around the Pinole Creek Watershed. These programs would focus on educating youth in Pinole on the importance of natural shoreline ecosystems, their role in climate resilience, biodiversity, and local, native species. The programs would also include information on how people can actively get involved in adapting to climate change in their homes and neighborhoods and provide hands-on volunteer opportunities for the community to participate.

SLR-1h

Increase the City's near and long-term capacity building to be able to develop and implement thoughtful shoreline resilience projects by creating a position for and hiring a shoreline resilience expert. The specific title may vary depending on the individual's background and the focus of their work within the broader context of climate change and sea level rise.



Extreme Heat

- EH-1** Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.
- EH-2** Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.



Extreme Heat

EH-1

Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.



Green roofs, or rooftop gardens, are a vegetative layer grown on a rooftop that provides shade and removes heat from the air to reduce roof surface temperatures and thereby the surrounding area. Based on previous analysis on green roofs, temperatures can be 30–40°F lower than those of conventional roofs and can reduce city-wide ambient temperatures by up to 5°F.⁵² Given the anticipated increase in temperature by mid- and end-of-century, a 5°F reduction in ambient temperature could make a significant positive impact. In addition to outdoor temperatures, green roofs can also reduce building energy costs compared to conventional roofs. Similarly, a cool roof, which includes either painted or un-painted options that have high-solar reflectivity and are designed to reflect more sunlight than a conventional roof, absorbing less solar energy.⁵³ Cool pavement options also include a range of established and emerging technologies that reflect more solar energy, enhance water evaporation, or have been otherwise modified to remain cooler than conventional pavements. This measure will be facilitated through partnership with the West Contra Costa School District and private schools in the City to create a map of the campuses and develop a plan to reduce urban heat islands in schools and adjacent areas. Implementation will also include auditing existing bus stops and creating a prioritized plan for shelter upgrades based on existing operations. As mentioned under the summary for Measure CS-1, California has an incredibly diverse ecosystem, which is reflected in the City. By identifying trees, grasses, and shrubs with the greatest cooling benefits and maximum biodiversity potential, multiple benefits would be achieved.

⁵² <https://www.epa.gov/heatislands/using-green-roofs-reduce-heat-islands>

⁵³ <https://www.energy.gov/energysaver/cool-roofs#:~:text=A%20cool%20roof%20is%20designed,cool%20on%20a%20sunny%20day.>

Key Performance Indicators

- Cool roofs installed (# and sf)
- Green roofs installed (# and sf)

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

EH-1a

Partner with the West Contra Costa Unified School District and private schools in the City to map out each campus in Pinole to understand the current infrastructure and then develop a plan to reduce the heat islands in Pinole's schools and adjacent areas, including on walking routes by plant trees or increasing shade structures as appropriate.

EH-1b

Establish a tree removal replacement policy where trees that are removed are replaced with shade trees that are adapted to the area.

EH-1c

In collaboration with Contra Costa Health Services, establish local early heat warning system that provides public health alerts in Spanish, Tagalog, and Cantonese.

EH-1d

Complete an assessment that evaluates new cool pavement technology, cost/benefits, and challenges and opportunities. Upon completion of the study, conduct a pilot of cool pavement application at a centralized area in Pinole that is most impacted by extreme heat to demonstrate success of the program.

EH-1e

Partner with WestCAT to audit existing bus stops in the City of Pinole with information detailing the current structures around the transit stops. Create a prioritization list of stops with low shading scores. Identify opportunities to add, replace, or upgrade existing transit stop shelters to provide increased shade for the transit riders and work with WestCAT to implement the identified opportunities.

EH-1f

Identify trees, grasses, and shrubs with greatest cooling benefits and maximum biodiversity potential and plant them in prioritized open spaces.

EH-1g

Identify grant funding opportunities and engage with local nurseries (e.g., Oaktown, Watershed Nursery, and Native Here) and tree planting programs to identify appropriate and cost-effective California native plants/trees that can be both planted in the ground or remain potted by residents living in rental/multi-family homes.

EH-1h

Amend the Building Code to require cool roofs for all new construction.

EH-1i

Partner with emergency management services to establish backup power and energy grid shutdown protocols that protect the most vulnerable populations (e.g., seniors, individuals with chronic health conditions, children, individuals with disabilities).

EH-1j

Identify opportunities to apply compost as mulch at City open spaces to improve water-holding capacity and filtration to combat extreme heat.

EH-1k

Identify a location in the City to establish a "Community Corner" redevelopment project as a model design project to reduce urban temperatures. Incorporate trees, grasses, and shrubs with the greatest cooling benefits into the project, utilize compost in the project's landscaping, and incorporate cool pavement technology, cool roofs, and shade structures where applicable. Further consider incorporating a rain garden and resilience center resources into the redevelopment project and publicize all resilient design elements through signage on the property and community tours.

EH-1l

Support development of community-serving microgrids and prioritize areas with high social vulnerability.



Extreme Heat

EH-2

Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.



Community murals are brightening and revitalizing communities nationwide in more ways than one by going beyond artwork and acting as economic development tools. According to the Americans for the Arts, a leading nonprofit for advancing the arts, arts drive tourism, support local merchants, and represents a growing portion of the gross domestic product.⁵⁴ Reflective mural have been measured to reduce the surface temperature of buildings by approximately 30 percent.⁵⁵ To initiate this exciting and innovative project, the City will create a digital map showing neighborhoods where it is the hottest and identify a location or locations to pilot an urban heat mural project (Action EH-2a). To measure indoor temperature, and ultimately, how productive the murals are at reducing indoor temperatures, sensors would be installed in the identified locations prior to completing the mural and be used to continue to track data after the murals are installed (Action EH-2d). Upon completion of the murals, the City would host community unveiling ceremonies that celebrate the project and provide updates on the CAAP implementation, as well as resources such as relevant incentives and rebates.

⁵⁴ <https://uca.edu/cced/2016/07/05/community-murals-as-economic-development-tools/>

⁵⁵ <https://www.pacoimabeautiful.org/programs/beat-heat-mural>

Key Performance Indicators

- Murals Complete (#)
- Temperature change between pre- and post-project

Emissions Reductions

2030: N/A
2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

EH-2a Partner with NASA, or a similar organization to create a digital map of the City showing neighborhoods where it is the hottest and identify locations to pilot an urban heat mural project.

EH-2b Post the map on the City's website and host community feedback sessions to update the analysis included in the map based on real lived experiences. Additionally, post mural design concepts that are created as part of Action EH-2c to foster a sense of ownership over the project.

EH-2c Create a partnership with Contra Costa College, Pinole Artisans, West Contra Costa Unified School District, private schools, and/or similar interested parties and community-based organizations to design and paint mural(s) that inspire the community while reducing indoor heat using reflective paint.

EH-2d Install indoor and outdoor temperature sensors in the identified locations prior to completing the mural and continue to track data after the murals are installed to measure indoor changes in temperature to quantify the benefits of the project.

EH-2e Identify and apply for grants to fund the completion of the mural and/or work with cool paint manufacturers to supply a small amount of paint at no cost for a pilot project where their name would be included on a plaque with volunteer artists who partner with the City to donate their time and expertise to create a unique project.

EH-2f Host a community unveiling ceremony where the artists and project partners are invited to participate in a meet and greet and celebrate the community in an unveiling celebration that can also be used to provide the community with information on the status of the Climate Action and Adaptation Plan implementation and resources including relevant community incentives and rebates.



Wildfire

WF-1 Enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers, conduct ongoing community workshops on home-hardening techniques, and connect community members to funding resources to implement these techniques.



Wildfire

WF-1

Enforce defensible space and home hardening standards to mitigate structure ignitions from wind-blown embers and direct flame impingement in fire hazard severity zones and protect the community from wildfires.



Defensible space is defined as the buffer created between a building and the surrounding ecosystem (grass, shrubs, and any wildland area) that is necessary to slow or prevent the spread of wildfire. Not only does defensible space protect buildings from catching on fire from embers, direct flames, or radiant heat, it also provides a physical space for firefighters to work.⁵⁶ Hardening (i.e., preparing) homes and businesses for potential wildfire include utilization of noncombustible materials during necessary replacements (e.g., fire rated roofs), caulking and plugging gaps, and installing weather stripping, among other things. Implementation of this measure would include conducting a feasibility study and if recommended, amending the Pinole Building Code to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone (Action CR-1b). Additionally, a built asset vulnerability assessment will be completed to identify which City-owned facilities and infrastructure have the highest risk to wildfire impacts and then identify opportunities to mitigate the risks. Similar goals are expected to be codified at the state level through AB 2322, which requires the State Fire Marshal to research and develop mandatory building standards for fire resistance prior to the next triennial edition of the California Building Standards Code adoption (January 1, 2026).

⁵⁶ <https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/>

Key Performance Indicators

- Feasibility study status

Emissions Reductions

2030: N/A

2045: N/A

Pillars



Structural Change



Funding



Education



Partnerships



Equity



Feasibility

Co-Benefits



Access to healthy food



Cost savings



Cleaner air/water



More green spaces



Improved accessibility



Improved economy



Disaster preparedness, safety, and resilience



City of Pinole Climate Action and Adaptation Plan (CAAP)

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| WF-1a | Partner with Housing Authority Contra Costa to conduct a study that estimates potential housing displacement impacts associated with wildfire events. |
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| WF-1b | Conduct a feasibility study and if recommended, amend the Pinole Building Code Title 15 (Building and Construction) to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone. |
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| WF-1c | Develop a subsidy program to improve air quality in the homes of low-income residents or vulnerable community members to mitigate impacts from wildfire smoke. |
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| WF-1d | Partner with West Contra Costa Fire Safe Council to help secure grant funding for mitigation activities that promote fire safe retrofits of existing structures that meet ignition-resistant building codes. |
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| WF-1e | Conduct a built asset vulnerability assessment to identify which City-owned facilities and infrastructure have the highest risk to wildfire impacts, identify opportunities to mitigate risk and implement changes. |
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| WF-1f | Evaluate and help identify and apply for funding for infrastructure improvements at Pinole Fire Station 74 to mitigate against wildfire hazards (fire breaks, fire resistant building materials, etc.). |
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| WF-1g | Actively engage in collaborative efforts to reduce wildfire risks, implementing effective mitigation strategies, and fostering a culture of fire safety through education and community involvement to achieve Firewise recognition |
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| WF-1h | Prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas. |
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| WF-1i | Continue to conduct proactive vegetation/weed abatement enforcement by removing vegetation and/or brush in areas adjacent to wildfire hazard zones, including both public and private property. Establish a comprehensive defensible space zone and fire breaks within the VHFHSZ, and a regular maintenance schedule. A FEMA approved HMP can establish eligibility for grant funding to complete fuel modification projects. |
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| WF-1j | Locate future critical facilities outside of the wildfire hazard zone. |
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| WF-1k | Continue to coordinate with PG&E through Rule 20A Program to underground utility lines to mitigate wildfire risk. |
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| WF-1l | Conduct on-going workshops on defensible space, vegetation management, and home-hardening techniques based upon most up to date CAL FIRE management guidelines and policies for landowners in fire hazard severity zones. |
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| WF-1m | Foster a community partnership that can successfully apply for and receive funding from programs such as the CAL FIRE Defensible Space Assistance Grant program and upcoming opportunities that become available. |
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- 124
- Page 447 of 945

Implementation and Monitoring

"I have solar and am interested in trying to consume less energy than I produce and also track to look for patterns to make sure there is no wasted energy."

– Pinole Community Member





Earth Walk Community Art Project, 2023

Implementation and Monitoring

We share a long history of completing projects to reduce GHG emissions and address climate impacts. With the adoption of this CAAP, additional collaboration and action will be necessary to reduce GHG emissions in line with the climate mitigation and adaptation goals. Establishing, maintaining, and enhancing new, and existing, relationships between the City and the community will be a pivotal piece in achieving the Plan's targets. Being transparent about progress over time is critical to building trust with the community.

Additionally, new policies and ordinances will be needed to drive change in tandem with new and innovative funding mechanisms to bolster the transformation of infrastructure and technology. Programs to educate and empower the community will increase awareness and action.

The City will implement measures that mitigate GHG emissions and increase climate change resilience in an equitable manner and avoid traditional hurdles.

While substantial evidence suggests that the emission reduction measures outlined in this CAAP will achieve the City's 2030 targets, uncertainty increases over time as impacts related to climate change may evolve or intensify. The adoption rates of each measure and action, costs of technology, legislative environment, and benefits assumed in this report will also continue to evolve over time. Therefore, this CAAP should be viewed as a strategic framework that will be re-evaluated regularly. This chapter discusses the implementation plan, monitoring and reporting processes, and how the City will prepare updates over time.

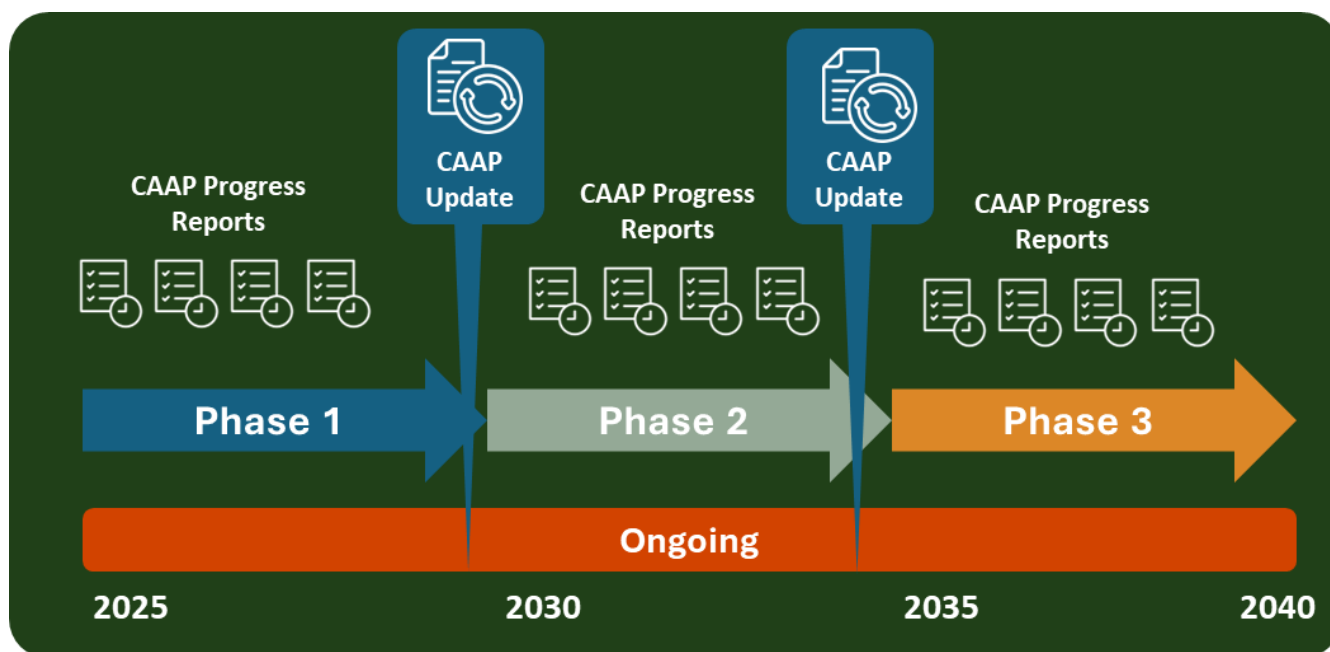


CAAP Implementation

Cities around the world already face challenges in meeting community needs for investment in many types of critical infrastructure and programs. Climate change impacts, such as rising sea levels, severe weather conditions, and wildfires, will only cause further damage to infrastructure, property, and people's livelihoods. Inevitably the City will incur substantial costs in repairing and rebuilding damaged infrastructure and supporting affected communities because of climate change. To minimize these costs, the City has developed an implementation plan that outlines the steps, timelines, and resources required to achieve the goals and objectives of the CAAP. Some actions such as adopting ordinances or resolutions to establish an electrification reach code can be done on a short timetable; while others, such as implementation of the Active Transportation Plan will require longer timelines for both rollout of the infrastructure and use by the community. Tables 10 – 12 included below provide detailed information on implementation of each action, including the department responsible for implementing the action, the phase in which the initiative will be implemented, and examples of what the funding sources could be.

The timeline in Figure 14 shows the five-year implementation and update schedule, with a phased approach to measure implementation. To achieve the 2030 GHG emissions reductions targets discussed in Chapter 2, Pinole will need to begin implementing the measures and actions immediately following adoption, no later than December 2024. CAAP Updates will follow the phased implementation approach, beginning with Phase 1, which will occur in the short-term over the next five years (2024 – 2029). Phase 2 would include implementation of the mid-term measures, while Phase 3 would include implementation of the longer-term measures, that are anticipated to occur after feasibility studies are complete and initial measures are implemented. If the actions identified in the CAAP are not implemented or the GHG inventories don't track progress towards the 2030 target, additional actions will need to be developed and adopted in a CAAP update.

Figure 14 CAAP Implementation and Monitoring Schedule





The first CAAP progress report will be prepared in 2025 and the CAAP will be reviewed and updated in 2029, based on current best practice at that time.

CAAP Monitoring

Monitoring and reporting processes are essential for accountability towards achieving the adopted targets. As part of the CAAP, the City will complete an annual progress report as well as a five-year CAAP review and update. The annual progress reports will include both evaluating implementation progress against the schedule and calculating an annual communitywide GHG emissions inventory. The City will also appoint a dedicated team responsible for monitoring and reporting on the implementation of the CAAP. This team will collaborate with interested parties to collect data and information on the effectiveness of implemented strategies and report the progress to the City Council and the public. The City Council will in turn provide oversight and guidance on the implementation of the CAAP.

CAPDash

CAPDash, shown in Figure 5, is a web-based dashboard developed by Rincon Consultants, Inc. that allows Pinole to monitor the annual emission reductions achieved through the implementation of each measure and fulfill the requirements of CEQA Section 15183.5(b)(1)(e). The City will conduct annual implementation monitoring of the GHG emissions reduction measures. The process for tracking and quantifying measure implementation status relies on specific target metrics identified for each of the quantifiable CAAP measures and actions. By committing to annual monitoring of implementation progress and adjusting as needed, Pinole can effectively mitigate GHG emissions and adapt to climate change. In doing so, Pinole will make it's fair-share contribution to meeting statewide GHG emission reduction goals, increase resilience across the community and reap the co-benefits in public health, economic growth, resilience, and more. This strategic plan represents another significant step in the City's dedication to a sustainable future.

Figure 15 CAPDash



Table 10 Implementation of Mitigation Strategies, Measures, and Actions

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
Strategy CR. Cornerstone				
CR-1. Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.				
CR-1a	Coordinate with the City's Economic Development staff to review and update the Pinole Economic Development Strategy every three years (2026/28, 2029/31, 2032/34, etc.) and adjust fees to specifically attract green and clean energy businesses to Pinole by reflecting changing economic trends, evolving community needs, and emerging opportunities. Include an annual review of the fee schedules (including a survey of competitor's fees) to assess their impact on green businesses.	Community Development	Phase 1	- Office of Planning and Research Covid Economic Relief Fund: Implementation Program - Economic Development Administration's Public Works and Economic Adjustment Assistance Programs - Office of Business and Economic Development Accelerate California Grant
CR-1b	Work with the City's Economic Development staff to perform direct outreach to existing Pinole businesses to identify climate change impacts (e.g., climate hazards, increasing water and natural gas costs, etc.) that may affect the long-term viability and growth of existing core industries and small business. Include regional green and clean energy businesses in a "short list" of industries to focus these initial outreach and business retention efforts during Phase 1.	Community Development	Phase 1	- Office of Planning and Research Integrated Climate Adaptation Plan - Economic Development Department Workforce Development Fund
CR-1c	In partnership with organizations such as the Workforce Development Board of Contra Costa County or Contra Costa College, create a green workforce development program to connect Pinole residents to workforce development training courses for climate industries with high-road jobs. Additionally, use the program to develop a network of local professional associations active in Pinole and to incorporate green workforce development training courses into the periodic "Pinole Workforce Development Consortium" meetings identified in the Economic Development Strategy. Focus this program on members of the most disadvantaged and vulnerable communities in the City and track enrollment and success rate by zip code to monitor the reach and distribution of the initiative.	Community Development	Phase 1	- Economic Development Administration's Public Works and Economic Adjustment Assistance Programs - Economic Development Department Workforce Development Fund - Office of Planning and Research Covid Economic Relief Fund: Implementation Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CR-1d	Partner with the Contra Costa County Green Business Program to help small- and medium-sized businesses in Pinole minimize their impact on the environment and increase the number of certified Green Businesses in Pinole.	Community Development	Phase 1	Economic Development Department Equity Target Population Fund
CR-1e	Create a Green Technology Incubator in partnership with the Workforce Development Board of Contra Costa County, Contra Costa College, the Renaissance Entrepreneurship Center, the East Bay Economic Development Alliance, or similar partners, to help startups and companies working on innovative solutions for climate-related challenges to succeed in the market. The Green Technology Incubator would provide access to funding through identification and partnership opportunities for grants, technical assistance, networking support, and community exposure.	Community Development	Phase 2	- Office of Planning and Research Covid Economic Relief Fund: Implementation Program - Economic Development Administration's Public Works and Economic Adjustment Assistance Programs - Office of Business and Economic Development Accelerate California Grant - Economic Development Department Workforce Development Fund
CR-1f	Incentivize optimal use of properties with a water view by adoption of Municipal Code Amendments allowing for height exceptions for mixed use developments that include top-floor restaurants that are dense, transit rich and connected to Pinole's growing active transportation network.	Community Development	Phase 2	
CR-1g	Based on the findings and recommendation of the broadband feasibility study, a subsidy or grant program may be developed to improve existing infrastructure of multi-family units (i.e., upgrade internal wiring etc.) to update policies to increase Pinole residents' work-from-home rate, including incorporating work-from-home strategies into the Transportation Demand Management standards of Action TR-3a.	Community Development	Phase 2	California Public Utilities Commission Broadband Adoption Account
CR-1h	Explore locations within the City to create a plan to develop a climate resilience district. The district would receive focused City resources, support, partnerships with local businesses, and engagement to develop resilient communities. Examples could include the Pinole Valley area to focus on funding projects related to wildfire risk, for example.	Community Development	Phase 2	- Governor's Office of Planning and Research Integrated Climate Adaptation and Resiliency Program Adaptation Planning Grant Program - Caltrans Sustainable Transportation Planning Grant

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
Strategy BE. Building Energy				
BE-1. Electrify 100% of new construction in the City by 2024.				
BE-1a	Adopt a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction.	Community Development Department	Phase 1	California Automated Processing Program
BE-1b	Partner with organizations such as MCE, Bay Area Regional Energy Network (BayREN), the Building Decarbonization Coalition and the U.S. Green Building Council (USGBC) to compile a suite of case studies (e.g., document/guide on all-electric best practices and examples applicable to Pinole or the Bay Area) and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype. Provide digital copies on the City's website and hard copies at City Hall for residents and business owners to review and utilize.	Community Development Department	Phase 1	Bureau of Reclamation WaterSMART Water and Energy Efficiency Grants
BE-1c	Partner with organizations such as MCE, BayREN, the Building Decarbonization Coalition, and USGBC to educate building owners, developers, and contractors on the cost savings, environmental benefits, and versatility associated with all-electric construction, as well as the advantages all-electric construction provide for United States Green Building Council LEED certification. Utilize the case studies and cost-effective strategies as well as existing resources such as those provided by MCE as educational materials and share the information on the City's website, at City events (such as Dumpster Day and Earth Walk), and at the City's permit counter.	Community Development Department	Phase 1	
BE-1d	Partner with PG&E to conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification and identify infrastructure improvements (including local renewable energy and storage projects) to increase capacity to meet demand. During this process, work with MCE to provide projections on load changes due to electrification.	Community Development Department	Phase 1	
BE-1e	Partner with MCE, the WFDBCCC and/or other organizations to host regular workforce development trainings for installers, local contractors, and building owners/operators. Trainings would provide financial resources and technical requirements, including information on new electric appliances and approaches to electrification. Partner with community-based organizations to connect members of vulnerable communities to these training programs in plain language and in a culturally appropriate manner.	Community Development Department	Phase 1	Economic Development Department Workforce Development Fund
BE-1f	Advocate for regional policy and programs that allow for utility rates that are supportive of electrification (i.e., electricity rates lower than natural gas rates).	Community Development Department	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-2. Electrify existing residential buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.				
BE-2a	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings. <i>The ordinance would apply to projects after calendar year 2024. The ordinance would be implemented through the building permit process.</i>	Planning and Building	Phase 1	
BE-2b	After calendar year 2024, include major renovations (i.e., projects that affect over 50% of the building, add an additional 50% of gross floor space to the building, or value more than 50% of the assessed value of the property at time of application submittal) in the all-electric new building requirements.	Community Development	Phase 1	
BE-2c	Complete a residential existing building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers). This information will be used to inform and support future updates to the existing building electrification ordinances as well as the building electrification resource center (Action BE-2e).	Community Development	Phase 1	
BE-2d	Partner with Contra Costa County to create a virtual all-electric building resource center to provide residents information on available electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs and on-bill financing, and equipment and labor warranties.	Community Development	Phase 1	Department of Energy Grid Innovation Program
BE-2e	As part of the building electrification resource center, provide free assessments to rental and multi-family properties, as well as seniors and residents living on low incomes.	Community Development	Phase 1	
BE-2f	Partner with MCE and PG&E to review incentives, rebates, and on-bill financing options for procedural equity and then update the incentives to remove the identified barriers.	Community Development	Phase 2	
BE-2g	Partner with properties in Pinole that provide deed-restricted affordable housing, MCE, PG&E, and BayREN to initiate and complete an affordable housing electrification pilot project. Project will implement energy efficiency strategies to mitigate increased energy bills for occupants. Promote the pilot project as a case study for future projects in the City.	Planning and Building	Phase 1	
BE-2h	Work with MCE and PG&E to conduct a cost-effectiveness study and design electricity and natural gas billing rates that make electrification the most cost-effective option to reduce energy bill burdens for residents living on low and medium incomes.	Planning and Building	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-2i	Provide education around cooking with electric appliances and partner with local chefs and/or restaurants to host cooking demonstrations at community events such as the Farmers' Market. Integrate locally sourced food into the demonstrations to also educate community members on the GHG emission reduction and resilience benefits of local food.	Community Development	Phase 1	
BE-2j	Enforce ordinance compliance through a comprehensive permitting compliance program which may include, but is not limited to: ▪ Providing dedicated time for routine staff training to incorporate into existing building inspections. ▪ Imposing fees for noncompliance to offset staff costs and encouraging voluntary compliance. ▪ Establishing easy-to-understand web-based compliance checklists and permit applications. ▪ Facilitating online permitting. ▪ Providing zero-cost permit fees for heat pump installations.	Community Development	Phase 1	
BE-2k	Develop and implement a water heater loan program where residents who are replacing their natural gas-powered water heaters with electric-powered water heaters at the end of their useful lives can borrow or rent at no cost a working natural gas water heater from the City for a limited period of time (e.g., three weeks) to use during any electrical panel upgrade requirements to install an electric water heater. Participation in this program could serve as a mechanism to support thoughtful residential transition. Consider expanding the loan program to induction stoves as well.	Community Development	Phase 1	California Automated Permit Processing Program: Solar Automated Processing Program
BE-2l	Partner with Rising Sun, or similar entity, to continue providing "Green House Calls" to residents to recommend energy-saving appliances and programs to help offset the costs of electrification.	Community Development	Phase 1	Bureau of Reclamation WaterSMART Water and Energy Efficiency Grants
BE-2m	Work with PG&E to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon-neutral buildings. Engage local developers, MCE, and vulnerable populations to assess the feasibility of adopting an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	Building	Phase 2 – 3	
BE-2n	Adopt an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	Community Development	Phase 3	
BE-2o	Explore the development of a revolving fund to integrate wall batteries for energy storage with Pinole's Energy Enhancement Rebate Program, aiming to enhance energy efficiency, sustainability, and financial viability for a more resilient energy future.	Community Development	Phase 3	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-3. Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.				
BE-3a	Complete an existing commercial building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers).	Community Development	Phase 1	
BE-3b	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for commercial and mixed-use buildings. The ordinance will be implemented through the building permit process. Track annual progress on commercial and mixed-use building electrification through the same permit tracking program developed for residential building electrification.	Planning	Phase 1	California Electric Homes Program
BE-3c	Evaluate the success of the Pinole Energy Enhance Rebate Program which offers additional rebates to Pinole residents for energy efficiency improvements stacked on top of federal, state, or regional rebates or discounts. Work with Contra Costa County Department of Conservation and Development to restructure the pilot program as needed. Seek annual grant funding sources to sustain and support the program through.	Planning	Phase 1	
BE-3d	Develop a building performance standard program to meet a specific level of energy use per square foot for all commercial and industrial buildings over 20,000 square feet. Implementation and compliance support, including resources and tools which will be implemented through four stages: 1. Pre-development phase – Stage 1 – Staff to receive technical assistance from the Building Technologies Office in the Federal Office of Energy Efficiency and Renewable Energy (EERE). Per the EERE, technical assistance may take the form of: ▪ Building stock analyses, including analysis of energy and emission impacts associated with building performance standard adoption ▪ Performance target-setting and trajectories ▪ Measure and technology prioritization and packaging ▪ Cost-effectiveness analyses	Planning and Building	Phase 1 – 3	California Electric Homes Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-3d cont.	2. Data collection phase – Stage 2 – All commercial and industrial building owners with floor area over 20,000 square feet report electricity and natural gas data through energy star portfolio manager 3. Retro commissioning phase – Stage 3 – All covered building owners complete a retro commissioning process to identify and correct system inefficiencies while identifying opportunities for electrification and downsizing of oversized equipment. 4. GHG Performance Standard – Stage 4 – Implement a building performance standard that requires buildings to meet a specific GHG performance level			
BE-3e	Conduct targeted outreach and complete tailored campaigns during development of the building performance program (Action BE-3d) and electrification ordinance (Action BE-3b) to identify potential barriers to commercial and mixed-use electrification (including equity barriers) and educate commercial and mixed-use property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to building owners that rent or lease space to small businesses and minority-owned businesses as well as the business owners and conduct a survey to such businesses to identify specific resources needed to support an equitable building electrification.	Planning and Building	Phase 1	▪ Economic Development Department Workforce Development Fund ▪ Economic Development Department Equity Target Fund
BE-3f	Partner with Contra Costa Health Services to provide small and minority-owned businesses/commercial property owners or property owners that rent or lease space to small or minority-owned business, electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs, and equipment and labor warranties through the building electrification resource center (Action BE-2e). Additionally, partner with MCE or PG&E to provide on-bill financing.	Community Development	Phase 1	Economic Development Department Equity Target Fund
BE-3g	Partner with the Bay Area Council, Bay Front Chamber of Commerce, and Contra Cost County Green Business Program to inform, encourage, and facilitate electrification for commercial business owners.	Community Development	Phase 1	
BE-3h	Review incentives and rebates (from Action BE-3g) for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural roadblocks, and lack of targeted outreach.	Community Development	Phase 1	
BE-3i	Work with MCE and PG&E to incentivize all-electric retrofits by combining rebate programs and financing mechanisms to create cost-effective	Planning and Building	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-3i cont.	electrification packages and develop bulk-purchasing opportunities for multi-unit development owners. Additionally, work with BayREN to educate the business community about the available incentives and include direct outreach to small, and frontline community-owned businesses and property owners who rent and lease space to frontline community-owned businesses.			
BE-3j	Work with BayREN to identify highly efficient net zero energy building owners that meet the CPUC's hard-to-reach criteria and publicize commercial tax breaks to these building owners as well as commercial developers in Pinole.	Community Development	Phase 2	
BE-3k	Re-evaluate the building performance program (Action BE-3d) every three years to gauge implementation progress and phase expansion of program to smaller buildings.	Building	Phase 2 – 3	
BE-3l	Review and update Section 15.46.020 of the Municipal Code to require upon a transfer of ownership the disclosure of additional relevant weatherization information (e.g., ventilation standards, wall insulation, and installation of programmable thermostats) for residences and commercial buildings over 5,000 square feet. As part of this, work with Contra Costa County Department of Conservation and Development to promote the Weatherization Program for qualifying residents. Additionally, develop a City-specific disclosure checklist and coordinate with realtors/brokers to engrain the City's resale requirements into their work with buyers and sellers.	Building	Phase 2	
BE-4. Work with MCE to provide carbon-free and renewable energy to at least 95% of the community by 2030.				
BE-4a	Support MCE in building capacity and funding to provide all Pinole customers 100% carbon-free and renewable energy and adopt a City resolution to enroll all Pinole residents and businesses in carbon-free and renewable from MCE (e.g., MCE's Deep Green option) by 2030. The resolution shall include identification of a funding or subsidy plan/program to avoid cost increases to customers enrolled in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs (Action BE-4b).	Planning	Phase 1	
BE-4b	In support of Action BE-4a, work with MCE to create a funding and subsidy plan/program for customers enrolled in the CARE or FERA programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for vulnerable communities.	Planning	Phase 1	
BE-4c	Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low and fixed incomes and vulnerable communities to identify barriers to remaining with MCE.	Planning	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-4d	Continue to partner with MCE to conduct educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy and promote the available incentives.	Community Development	Phase 1	
BE-4e	Conduct targeted outreach campaigns to convert PG&E direct access customers to MCE by promoting available incentives and promoting the economic and business benefits of 100% renewable energy.	Community Development	Phase 2	
BE-5. Increase generation and storage of local community-scale renewable energy.				
BE-5a	Adopt a PV (Solar) Ordinance requiring newly constructed and majorly renovated multi-family and commercial buildings to install PV systems and storage that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen.	Planning	Phase 1	California Automated Permit Processing Program: Solar Automated Processing Program
BE-5b	Continue to establish and streamline standards and permit requirements for electrification-related installations and battery storage systems to allow for easier implementation of these technologies in the City.	Planning	Phase 1	
BE-5c	Install a co-located community solar and storage facility to benefit affordable housing sites using Equity Resilience Incentives under the Self-Generation Incentive Program available through the California Public Utilities Commission.	Public Works	Phase 1	California Energy Commission Block Grant for Electric Vehicle Charger Incentive Projects
BE-5d	Collaborate with PG&E, MCE, and/or other community partners to support and incentivize local on-site energy generation and storage resources. This could include: ▪ Connecting home and business owners, particularly those in vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill credits, the Disadvantaged Communities-single-family Solar Homes (DAC_SASH) program, Self-Generation Incentive Program (SGIP), and Equity Resilience rebates that provide an upfront rebate for battery storage, as well as the federal investment tax credit. ▪ Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms. ▪ Providing workshops to large commercial developers and large business property owners on the benefits of microgrids and energy resilience. ▪ Creating a strike team to conduct engagement efforts for the commercial sector to identify ways the City can support commercial energy storage installations and neighborhood scale microgrid opportunities.	Community Development	Phase 1	Department of Energy Grid Innovation Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
BE-5e	Expand the partnership with GRID Alternatives through increased funding/support and promote the benefits of renewable energy through multi-lingual educational programs to facilitate an equitable transition to renewable energy.	Community Development	Phase 1	
BE-5f	Partner with CBOs and homeowner's associations (HOAs) through the City's professional grant writing consultant, who will support the identification, conceptualization, preparation, and submittal of grant applications to secure funding for community-scale renewable energy projects. Utilize any grant funded projects as City pilot projects to demonstrate the success of the program and opportunities available.	Community Development	Phase 2	
Strategy TR. Transportation				
TR-1. Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.				
TR-1a	Conduct an analysis of existing bicycle and pedestrian conditions during the development of the Active Transportation Plan with a focus on identifying residential communities, commercial uses, schools, and open spaces currently disconnected from the Creek, due to freeways and lack of connections on busy roads. Build on the interactive map created to solicit community input regarding the Active Transportation Plan on "Pinole Speaks," the City's public input website to display the active transportation conditions identified and allow community feedback through the webpage.	Public Works	Phase 1	- Department of Transportation's Safe Streets and Roads for All program - Department of Transportation's Active Transportation Infrastructure Investment Program - California Transportation Commission's Active Transportation Program
TR-1b	Complete the Active Transportation Plan with a focus on creating safe and connected active transportation networks that link residential neighborhoods, schools, and commercial centers to Pinole Creek and thereby to each other. The plan will include: - A prioritized list of pathways to be installed or upgraded to include shared-use paths, buffered bike lanes, bike boulevards, and separated bikeways. - A prioritized list of bicycle parking or storage and equipment repair infrastructure. - Information on additional infrastructure installed as part of the plan, such as trash and recycling receptacles to prevent waste from entering the creek due to increased usage. - A schedule for reducing vehicle speed limits at prioritized locations. - Available funding sources for infrastructure buildout. - Use of sustainable materials, when feasible	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-1b cont.	Prioritization shall focus on achieving an equitable active transportation system where all Pinole residents have access to critical connections and mobility options.			
TR-1c	Partner with Contra Costa Transportation Authority to pursue funding from Caltrans' Active Transportation Program or similar funding opportunities to implement improvements from the City's Active Transportation Plan.	Public Works	Phase 1	
TR-1d	Partner with entities such as the Metropolitan Transportation Commission, 511 Contra Costa, or the Contra Costa Transportation Authority to expand existing rebate programs to help families living on low- and fixed-incomes purchase alternative modes of transportation (e.g., bicycles, scooters, rollerblades, skates, skateboards) and appropriate safety gear.	Public Works	Phase 2	- Department of Transportation's Safe Streets and Roads for All Program - Department of Transportation's Active Transportation Infrastructure Investment Program - California Transportation Commission's Active Transportation Program
TR-1e	Partner with Bike East Bay and/or other non-profit groups to periodically close streets with connections and vistas of the Creek to cars to host walk/bike/roll (car-free) community events that demonstrate the benefits of a safe and connected active transportation network. Coincide these community events with regular active transportation events to encourage and reward residents for participation.	Public Works	Phase 2	
TR-1f	Partner with schools, youth sports leagues, the Pinole Police Department, and community groups such as Friends of Pinole Creek Watershed, 511 Contra Costa, Pinole Valley Earth Team, Pinole Rotary, Pinole Community Services Commission and local Tribes to teach students and families bicycle and pedestrian safety and educate them on the safe route availability and the health and environmental benefits of walking and bicycling, as well as the history of the Pinole Creek ecosystem and surrounding natural lands.	Public Works, Community Services	Phase 2	- Department of Transportation's Safe Streets and Roads for All program - Department of Transportation's Active Transportation Infrastructure Investment Program - California Transportation Commission's Active Transportation Program - California Transportation Commission's Local Partnership Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-1g	Partner with an electric bike provider or rental company to pilot an electric-bike rental program at the Pinole Library. Track use of the program, including equity indicators, to monitor its success and evaluate continuation of the program.	Community Development	Phase 2	California Climate Investments Program
TR-1h	Install bike repair stations along the Pinole Creek and consider partnering with a local bike shop to provide quarterly bicycle repair support for residents traveling along the bike path or at a designated, central location.	Public Works	Phase 2	California Transportation Commission's Local Partnership Program
TR-1i	Implement 100% of the Active Transportation Plan by 2030 to achieve a 5.5% active transportation mode share by 2030 and 11.5% by 2045.	Public Works	Phase 2 – 3	California Transportation Commission's Active Transportation Program
TR-2. Implement public and shared transit improvements and programs to achieve a 14% public transit mode share by 2030 and 18% by 2045.				
TR-2a	Partner with Western Contra Costa Transit (WestCAT) to conduct a prioritization study to determine transit priority corridors and best potential locations for WestCAT expansions (including the Hercules Intermodal Transit Center and Richmond BART Station) to reduce transit travel times from/to Pinole. The study shall include an analysis of existing stops and schedules, a survey of existing commuter patterns, analysis of potential latent demand, and targeted outreach to residents living on low- and moderate-incomes and members of vulnerable communities to understand the concerns around or equity barriers to using public and/or shared transit.	Public Works	Phase 1	California Transportation Commission's Local Partnership Program
TR-2b	Conduct a feasibility study to assess the potential impacts and costs of a park-and-ride facility in Pinole and identify potential locations.	Public Works	Phase 1	
TR-2c	Work with WestCAT to complete an analysis of potential design improvements, such as seating and shading bus stops and along active transportation routes to increase use.	Public Works	Phase 1	CalTrans Sustainable Transportation Planning Grant
TR-2d	Work with WestCAT to improve transit accessibility for people with disabilities by ensuring physical accessibility (i.e., ramps, lifts, and tactile paving), providing both audio and visual information; training staff on how to assist people with disabilities and handle equipment; and actively engage people with disabilities in the decision-making process.	Public Works	Phase 1	
TR-2e	Partner with WestCAT and the Contra Costa Transportation Authority to implement a free public transit pilot program for students, foster youth, and unhoused youth in Pinole that makes it free for participants to travel via WestCAT.	Community Development	Phase 1	Section 5310 Grant for Senior Access

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-2f	Based on the prioritization studies (TR-2a - TR-2c), develop a plan to prioritize infrastructure improvements in existing neighborhoods that increase access to and use of public transit. The plan shall include projects and timelines to: - Expand WestCAT routes and schedules - Cohesively label all existing and new stops - Provide safe and convenient shelters with benches, shade, hand sanitizing stations, area maps, and native plants - Establish a schedule to annually monitor routes and schedules to confirm they meet the needs of the community	Public Works	Phase 2	
TR-2g	Engage with Caltrans to design and install a park and ride facility, which may include implementing efficient traffic flow systems.	Public Works	Phase 2	
TR-2h	Partner with 511 Contra Costa to educate Pinole residents, commuters, and students on available transit opportunities through free commute consultations, and provide qualifying commuters with financial incentives to take transit, such as pre-loaded Clipper cards and a Guaranteed Ride Home program.	Public Works, Community Development	Phase 2	
TR-2i	Partner with WestCAT and the Contra Costa Transportation Authority to pursue funding for the prioritization study and plan (TR-2a - c and TR-2f) through MTC's One Bay Area Grant funding, or similar funding opportunities.	Public Works, Community Development	Phase 2	
TR-2j	Partner with the West Contra Costa Unified School District and/or private schools to evaluate mobility needs and expand bus routes where necessary to increase access to and use of school bus transportation to schools, including services for after-school hours for student and their guardians	Public Works, Community Development	Phase 2	
TR-3. Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.				
TR-3a	Adopt an ordinance requiring all employers to develop a Transportation Demand Management (TDM) Plan and require large employers (i.e., more than 25 employees) to include money-based incentives for employees to bike, walk, carpool, or take public transit to work. Additionally, complete a comprehensive study to establish an Average Vehicle Ridership (AVR) that accurately reflects Measure TR-1 and TR-2's goals.	Public Works	Phase 1	
TR-3b	Create a Pinole Parklets Program to install parklets in the downtown and other commercial areas of the City and engage with businesses to gain sponsorship for the parklets.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-3c	Require informative signage be included at the parklets designed through the Pinole Parklet Program (Action TR-3b) that provide information on the benefits of ecosystem services at all scales, and the health impacts associated with reducing single occupancy vehicle trips.	Public Works	Phase 1	
TR-3d	Partner with local jurisdictions, public transit providers, and CBOs to identify gaps in the transportation network that can be prioritized for cross-jurisdictional collaboration to connect the region and reduce the need for single occupancy vehicles.	Public Works	Phase 1	
TR-3e	Conduct an analysis of the potential community impacts and feasibility and benefits of implementing disincentive-based policies for driving single-passenger vehicles, including a congestion charge program, limiting parking options, increased local taxes (income tax, gasoline tax, or car registration tax), and Transportation Network Companies (TNC) user taxes. Include analysis of potential equity impacts of the policies and identification of potential equity metrics to address equity concerns when developing policies.	Public Works	Phase 1	
TR-3f	Consider opportunities to fund transportation system improvements through disincentive-based program revenues and/or a tiered TDM fee for employers who do not achieve the established AVR by 2030 to establish an equitable transition to more sustainable modes of transportation.	Public Works	Phase 2	
TR-3g	Conduct AVR surveys of Pinole businesses every three years to determine weekday AVR and mode share split as well as perceived barriers to telecommuting and alternative modes of transportation (i.e., modes other than single occupancy vehicles), and interest in sustainable transportation amenities, infrastructure, and events/resources.	Public Works	Phase 3	
TR-3h	Consider development applications that will improve the community by increasing density in transit-rich areas and connecting residents of multi-family, and/or affordable housing sites to public and shared transit options.	Public Works	Ongoing	
TR-4. Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.				
TR-4a	Adopt an EV reach code by 2025 requiring new commercial and multifamily construction to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces).	Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-4b	Adopt an EV reach code by 2026 requiring major multifamily building retrofits to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces) and major commercial retrofits (with a square footage larger than 10,000 square feet or modifications for electric service panels) to meet CalGreen requirements for “EV Ready” charging spaces and infrastructure.	Community Development	Phase 1	
TR-4c	Adopt an ordinance that bans the development of any new, or expansion, renovation or replacement of any existing, fossil fuel stations in the City prior to the expiration of the Urgency Ordinance. The process should include: 1. Determining and define an outreach process. 2. Prepare a General Plan, Specific Plan, and Zoning Ordinance text amendment, which would establish Service Station land use as Not Permitted by Table 17.20.030-1 in the PMC, making all existing service stations legal non-conforming and subject to Section 17.14.080 of the Municipal Code. 3. Determine if any streamlining enhancements to existing provisions in the PMC that incentivize the expansion, modification, or retrofit of an existing service station to incorporate biodiesel or other alternative fuels or charging stations for electric vehicles should be considered. 4. Take the Amendments through the required public review process, including Planning Commission recommendation and City Council adoption. 5. Continue to direct staff to explore options for additional charging at City-owned/maintained properties and private facilities for public benefit.	Community Development	Phase 1	
TR-4d	Update Pinole’s permit process for EV chargers to create a streamlined process for residents and businesses that is consistent with the State’s Electric Vehicle Charging Station Permitting Guidebook (as well as AB 970, AB 1236)..	Community Development	Phase 1	
TR-4e	Prepare a feasibility study to evaluate opportunities for installation of EV charging stations at City owned facilities. The feasibility study will assess electrical capacity, electrical demand, financial constraints, funding sources and parking utilization to provide a prioritized list of locations to install new publicly accessible EV charging stations.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-4f	In the feasibility study, include evaluation of opportunities and prioritization of locations to increase the equitable distribution of publicly available EV chargers to residents of multi-family homes and residents living on low- and moderate-incomes, as well as consideration for optimizing daytime charging.	Public Works	Phase 1	
TR-4g	Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City's website and at community events.	Community Development	Phase 1	
TR-4h	Work with MCE to promote and provide technical assistance for their Residential EV Rate Plan and MCE Sync charging app to help community members charge during off-peak hours and save money on home charging.	Community Development	Phase 1	
TR-4i	Coordinate with community-based organizations, local agencies, and non-profits such as Charge Up Contra Costa, 511 Contra Costa, and Cool the Earth to conduct zero-emission vehicle (ZEV) education events for residents and targeted events for residents living on low- and moderate- incomes as well as residents living in multi-family buildings that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and detail the steps on how to receive incentives for ZEVs.	Community Development	Phase 1	
TR-5j	Work with Contra Costa County to create an EV charging etiquette policy that encourages a seamless charging experience, fosters community collaboration, and promotes sustainable practices for the benefit of all electric vehicle users and the environment.	Community Development	Phase 1	
TR-k	Develop an equitable charging fee structure that provides accessibility for all users, regardless of socio-economic background, fostering inclusivity and promoting widespread adoption of electric vehicles.	Public Works	Phase 1	
TR-4l	Develop outreach and education materials and distribute them to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health, and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process. Additionally, as part of this process, include information on EV battery recycling to dispel myths, ease disposal concerns, and promote sustainable practices grounded in science.	Community Development	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-4m	Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a zero-emission vehicle car share network.	Community Development, Public Works	Phase 2	Department of Transportation Charging and Fueling Infrastructure Grant
TR-4n	Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share program to serve affordable housing and/or multifamily developments with a priority to target residents living on low- and moderate-incomes.	Public Works	Phase 2	
TR-4o	Based on the prioritized list of locations developed through actions TR-4d and TR-4e, install at least 270 new publicly accessible Level II and DC Fast chargers by 2030 and 935 by 2045, through public-private partnerships and on City-owned properties.	Public Works	Phase 2 – 3	
TR-5. Increase commercial zero-emission vehicle (ZEV) use and adoption to 25% by 2030 and 100% by 2045.				
TR-5a	Work with the Bay Area Air Quality Management District, Pacific Gas & Electric, and or similar entities to identify and provide funding for electric vehicles and charging infrastructure for disadvantaged or vulnerable business owners.	Public Works	Phase 1	- Bay Area Air Quality Management District's Clean Cars for All - BAAQMD's Vehicle Buy Back Program, Clean Vehicle Assistance Program's Clean Vehicle Assistance Program - California's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
TR-5b	Create a summary of commercial vehicle fleets in Pinole and identify employers to work with to accelerate ZEV adoption through targeted education.	Public Works	Phase 1	
TR-5c	Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of zero emission vehicles (e.g., fuel cost savings through networked charging and current availability of zero emission vehicles ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities.	Community Development	Phase 1	
TR-5d	Implement local tax breaks to incentivize commercial fleet electrification.	Community Development	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
TR-5e	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.	Community Development	Phase 2	California Energy Commission's Charging Infrastructure for Government Fleets
TR-6. Electrify or otherwise decarbonize 8% of off-road equipment operations by 2030 and 100% by 2045.				
TR-6a	Create a phased ordinance by 2026 to ban the local operation of gasoline and diesel-powered off-road equipment by type (e.g., lawn and garden, construction), including banning local operation of gasoline and diesel-powered small off-road equipment (SORE) by 2028. Update the ordinance based on a regular review of relevant state regulations, regional rules, and available technology.	Community Development	Phase 1	
TR-6b	Establish a communication and outreach program to raise awareness of the ordinance, educate community members on the benefits of and funding opportunities for offroad decarbonization, and collect data on offroad fleet and decarbonization trends in the community (e.g., through outreach sampling and surveying).	Community Development , Public Works	Phase 1	California Energy Commission Local Government Building Decarbonization Challenge
TR-6c	As part of Action TR-6b's program, investigate off-road equipment fleets in the City to identify fleets with the highest decarbonization potential, fleets owned by small and minority businesses that will need targeted support and incentives to decarbonize or electrify, and fleets that do not currently have zero-emission alternatives. Utilize these findings to develop the phased off-road ordinances.	Public Works	Phase 1	California Energy Commission Local Government Building Decarbonization Challenge
TR-6d	As part of Action TR-6b's program, develop a multi-lingual Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in the City, with a target towards those identified in Action TR-6c. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).	Community Development, Public Works	Phase 1	Clean Off-Road Equipment Voucher Incentive Program
TR-6e	Partner with surrounding jurisdictions and the Bay Area Air Quality Management District (BAAQMD) to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.	Community Development, Public Works	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
Strategy SW. Solid Waste				
SW-1. By 2025, reduce organics to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.				
SW-1a	Through MOUs with the City's waste haulers, establish requirements by 2024 for waste haulers to perform annual performance assessments to determine compliance with SB 1383 requirements. If the performance assessments show the hauler is not on target, meet with the hauler and RecycleMore staff to establish prioritized actions for the hauler and/or RecycleMore to complete. Additionally, utilize the assessments to identify trends in contamination and integrate lessons learned into the educational program as part of Action SW-1e.	Public Works	Phase 1	
SW-1b	Partner with RecycleMore, Sustainable Contra Costa, or similar entities to complete community based social marketing (CBSM) targeted outreach and education campaign by 2025 to high organic generation commercial accounts to educate and train commercial generators' management and staff about best practices in food waste reduction and surplus food donation. As part of this effort, develop successful case studies for Pinole food facilities to provide best practices, cost savings and other methods to energize food facility managers and staff to fully participate in the organics diversion and edible food recovery programs.	Public Works, Community Development	Phase 1	
SW-1c	In concert with Economic Development programs, establish a downtown Pinole outreach campaign and recognition program by 2025 to celebrate restaurants/food facilities with the highest diversion and edible food recovery success. Create a space on the City's CAAP website to highlight the campaign and leaders in the community, as well as provide a plaque or alternative community recognition that emphasizes the successful initiatives.	Public Works	Phase 1	
SW-1d	Establish a program by 2024 to distribute kitchen food pails at community events (e.g., Farmers Markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk), distribute food pails at grocery stores in lower-resourced areas, and directly connect with property owners of low- and moderate- income rental housing to distribute food pails directly to housing units. Through the program, track how many pails are distributed quarterly.	Public Works	Phase 1	
SW-1e	Establish and maintain an ongoing education program informing the community about compostable materials and upcoming at-home composting workshops, including regularly updated guidelines on composting, especially paper, distributed bi-annually and made available at the City permit counter, grocery stores, as well as at farmers' markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk and other community events.	Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-1f	Transform Pinole's "Dumpster Day" into "Resource Recovery Day," in both name and concept, by introducing a community swap meet where residents exchange/recycle household goods in preference to conventional commerce and waste. At the event, the City can provide education about organics diversion (including the concept of closing the loop for organics material and edible food recovery) and the "Buy Nothing" movement, and feature special compost giveaway events (e.g., free kitchen food pails).	Public Works, Community Development	Phase 1	
SW-1g	Work with local grocery stores and retail food markets, the Contra Costa and Solano Food Bank Rescue Program, RecycleMore, and community groups to understand the criteria for acceptable food for recovery and establish a more robust food rescue and distribution program to divert additional edible food to food insecure residents.	Public Works, Community Development	Phase 1	
SW-1h	Identify and support school organizations in the City (e.g., leadership, sustainability, and environmental groups or clubs) start "Go Organics" programs to initiate, educate, and implement robust organics collection programs on campus in collaboration with the City's waste hauler and RecycleMore.	Public Works, Community Development	Phase 1	Edible Food Recovery Grant Program
SW-1i	Develop presentations for all schools in Pinole to: - Educate students, staff, and teachers on how to implement an efficient, yet robust organics collection program - Educate students, staff, and teachers on the benefits of diverting organics and reducing GHG emissions - Engage school leadership on the benefits of establishing a 'closed loop partnership' regarding organics. This could include adding organics end products such as mulch and compost delivered from the City's waste hauler nearby composting facility to school gardens and landscaping, thereby eliminating need for pesticides and herbicides, and increasing water retention in school landscaping.	Public Works, Community Development	Phase 1	Edible Food Recovery Grant Program
SW-1j	Continue to partner with the City's waste hauler to include quarterly multi-lingual inserts in residential and commercial billing to highlight important programs and initiatives, including the single-use plastic ban and the no-cost organics pails available to residents and the composting programs in Action ID SW-1h, as well as new programs as they are created.	Public Works, Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-1k	Develop a comprehensive outreach program to educate Homeowner Associations, neighborhood associations, and communities on social media platforms such as NextDoor and Pinole TV on the City's organic waste diversion requirements and available programs and resources to increase diversion.	Public Works, Community Development	Phase 1	
SW-1l	Implement a comprehensive organics collection and edible food recovery program for low income and fixed income people to ensure access to edible surplus food recipients such as food banks and other food recovery organizations.	Public Works, Community Development	Phase 1	
SW-1m	Fund the comprehensive organics collection and edible food recovery program using CalRecycle's SB 1383 grant funding cycle.	Public Works, Community Development	Phase 1	
SW-1n	Partner with local waste management providers, food recovery organizations, and West Contra Costa Unified School District, private schools in Pinole, or similar entities, to analyze existing food waste generation, disposal practices, and potential sources of edible surplus food.	Public Works, Community Development	Phase 1	
SW-1o	Install compost bins throughout the City where there are landfill and recycling bins to collect organics generated. Incorporate the hauling requirements into the waste hauler's contract to confirm proper management and disposal.	Public Works, Community Development	Phase 1	
SW-2. Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.				
SW-2a	Adopt a Zero Waste Policy and Zero Waste Strategic Plan to guide and detail methods to meet the reduction target of 35% by 2030 and 90% by 2045. As a part of the Zero Waste Strategic Plan, adopt a Sustainable Foodware Ordinance by 2024 to phase in the reduction, and subsequent elimination of, single-use plastic foodware by food facilities.	Public Works, Community Development	Phase 1	
SW-2b	Partner with an entity such as Terracycle to create a recycling program at City-owned and operated buildings and other community-based locations to collect hard to recycle products, such as snack pouches.	Public Works, Community Development	Phase 1	
SW-2c	Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, engage local home improvement businesses and partner with the Pinole Library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available.	Public Works, Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-2d	Continue the City's single-use plastic education efforts and integrate the efforts into a citywide education program, 'Pinole's Path to Zero Waste,' to expand outreach and resources about zero waste goals and focus education on specific benefits to the City (e.g., reduction of single-use plastic pollution flowing into Pinole Creek and San Pablo Bay, community savings from reduce and reuse efforts).	Public Works, Community Development	Phase 1	
SW-2e	Partner with community-based organizations such as ReThink Disposables and RecycleMore to engage Bayfront Chamber of Commerce members and other Pinole businesses to educate the business community about the benefits of reusables and inform them about the new Single-use Plastic Foodware and Bag Reduction Ordinance.	Public Works, Community Development	Phase 1	
SW-2f	Work with compostable distributors to achieve competitive pricing for compostable foodware to increase compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance.	Public Works, Community Development	Phase 1	
SW-2g	Sponsor businesses to host refill pop-ups at community events (e.g., Farmers Market) where community members can purchase common household products and food in bulk using their own containers and create a network of local businesses that can provide the pop-up local, bulk products with zero-waste packaging.	Community Development	Phase 1	
SW-2h	Secure financial grants and assistance from Rethink Disposables, CalRecycle's City/County Payment Program (CCPP), and others, to support businesses in developing pilot programs for reusable and returnable foodware and drop-off stations, purchasing and installing dishwashers, and overall gaining compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance. Highlight and support use of new grant funds available for small and minority-owned businesses to participate. Additionally, Seek grant funding to support pop-up repair cafes and a tool lending program.	Public Works, Community Development	Phase 1	
SW-2i	Create a Hazardous Waste Material Reuse Program that offers usable household hazardous waste collected at the West Contra Costa County Drive-Through to the community free of charge through a Material ReUse Store. Establish a schedule and location(s) to operate the Material ReUse Store alongside the household hazardous waste collection schedule and promote the store on the City's website and on the City's social media platforms.	Public Works, Community Development	Phase 2	
SW-2j	Partner with public schools to reduce single-use plastic foodware, convert necessary single-use plastic foodware to compostable/reusable foodware, and educate students on closing the loop (i.e., Loop organics).	Public Works, Community Development	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-3. Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.				
SW-3a	Include in, or amend, the franchise agreement with the City's waste hauler to require C&D diversion requirements with performance disincentives for non-compliance.	Public Works, Community Development	Phase 1	
SW-3b	Partner with RecycleMore and the City's waste hauler to complete an assessment of projects that were not compliant with the 65% diversion requirement. Determine an Action Plan to ensure similar future projects meet the 65% requirement. Complete ongoing review of projects collaboratively with RecycleMore to assess projects that are non-compliant and methods to ensure 65% diversion requirements are met.	Public Works, Community Development	Phase 1	
SW-3c	Fully engage and inform permit applicants of the 65% requirements at the very beginning of the planning, building, and inspection process and collaborate with RecycleMore to integrate C&D diversion practices into the City's permit process.	Public Works, Community Development	Phase 1	
SW-3d	Create and distribute a Contractors Guide to educate contractors on the requirements to meet the program conditions that include pre-permit documentation weight tags, post-permit documentation, and consequences for not meeting minimum diversion requirements.	Public Works, Community Development	Phase 1	
SW-3e	Update C&D information on the City's website to include a more complete comprehensive list of documents, such as: ▪ Pre-permit requirements ▪ Green Halo system requirements ▪ Locations for C&D materials processing/diversion ▪ Weight tag requirements ▪ Post project requirements and signature ▪ Details regarding consequences for not meeting requirements.	Public Works, Community Development	Phase 1	
SW-3f	Partner with the City's waste hauler, RecycleMore and other C&D organizations to educate on best practices for meeting CalGreen 65% requirements as part of Program 9 in the Housing Element.	Public Works, Community Development	Phase 1	
SW-3g	Use financial grants and assistance from CalRecycle to fund and provide tools for low- and fixed-income projects to meet requirements.	Public Works, Community Development	Phase 1	
SW-3h	Continue to offer online-waste tracking options for the community through the Green Halo compliance system, or a similar system, which allows for receipts to be verified online, streamlining the processes substantially	Public Works, Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-4. Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.				
SW-4a	Complete a feasibility study to identify local partners, analyze the potential waste volume, and assess facility upgrades needed to complete a pilot Organics to Energy Project at the WWTP and the potential cost and GHG emission reduction impacts of such a project.	Public Works, Community Development	Phase 1	
SW-4b	Conduct case study assessments of other organics to energy projects at WWTPs to educate City decision makers, the public, and other interested parties on the feasibility of the pilot project and opportunities to enhance the WWTP for organic waste diversion.	Public Works, Community Development	Phase 1	
SW-4c	Partner with an organics-to-energy company to help assess the feasibility of a pilot project for the City and impacted communities.	Public Works, Community Development	Phase 1	
SW-4d	Pursue funding opportunities (e.g., CalRecycle) and financing alternatives to address capital costs for the pilot project.	Public Works, Community Development	Phase 1	
SW-5 Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.				
SW-5a	Establish a program to procure and provide compost for: ▪ The City's parks, recreation areas, schools' landscaping, and school gardens ▪ Garden community organizations such as the Pinole Garden Club ▪ Residential and commercial landscapers	Public Works, Community Development	Phase 1	
SW-5b	Amend or otherwise ensure that the Franchise Agreement for the City's waste hauler will provide organic waste products at reduced cost.	Public Works, Community Development	Phase 1	
SW-5c	Establish a new program to deliver compost to local schools and community organizations. Expand free compost giveaways to residents, local urban farmers, and other organizations. Track the success of the program based on tons of compost given away and promote the program on the City's CAAP website and through the City's social media channels.	Public Works, Community Development	Phase 1	
SW-5d	Complete a feasibility study in collaboration with RecycleMore to identify cost-effective end uses for organic waste products and methods to distribute the products.	Public Works, Community Development	Phase 1	
SW-5e	Using established education materials from RecycleMore and other organizations, provide outreach and education to the City's garden community organizations such as the Pinole Garden Club, resident groups, and commercial landscapers in Pinole on the benefits of using organic end products such as compost and mulch.	Public Works, Community Development	Phase 1	CalRecycle SB1353 Grant

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SW-5f	Partner with Republic Services, or others who own large composting operations in close proximity to the City to provide organic end product to the community at a cost-effective rate.	Public Works, Community Development		
SW-5g	Use the SB 1383 fee to pay for a portion of organic end use products. Use financial grants and assistance from CalRecycle to fund the purchase of organic end product. Focus effort on lower income projects to participate in program.	Public Works, Community Development	Phase 1	
SW-5h	Establish an online mapping location hosted on a City website to identify existing community gardens and make a list of potential underused park space for expansion, setting internal key performance indicators for number of new garden spaces.	Public Works, Community Development	Phase 1	
Strategy W. Water				
SW-1. Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.				
W-1a	Continue to implement and enforce Pinole Municipal Code Chapter 15.54 (Water Efficient Landscaping) to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf.	Public Works	Phase 1	
W-1b	Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies. The Ordinance will focus primarily on domestic water use, health and sanitation, and fire protection.	Public Works	Phase 1	Bureau of Reclamation WaterSMART Drought Resiliency Program
W-1.c	Perform a study to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance. The feasibility study will help the City determine the size threshold for future development projects subject to the Ordinance.	Public Works	Phase 1	
W-1d	Upon completion of the Feasibility Study in Action W-1c, adopt an appropriate Dual Drainage Plumbing Ordinance.	Public Works	Phase 1	
W-1e	Continue to comply with SB 1087 and Municipal Code Chapter 17.32 (Affordable Housing Requirements) requirements to provide priority water and sewer service allocations to affordable housing developments.	Public Works	Phase 1	
W-1f	Continue to partner with East Bay Municipal Utility District's to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pinole, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens. Provide specific updates to the community as new programs are released, such as featuring a new indoor plumbing program to help Customer Assistance Program participants find and fix indoor leaks.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
W-1g	Implement a comprehensive, coordinated educational initiative focused on property owners, landlords, property management firms, homeowners' associations, and occupants to reduce water usage in homes and businesses. This campaign will incorporate the water conservation messaging of the East Bay Municipal Utility District (EBMUD), utilizing various communication channels such as publications, websites, community events, workshops, and bill inserts. It will also provide details on available incentives for water-saving appliances, fittings, fixtures, and efficient landscaping irrigation systems, including those offered by EBMUD. Additionally, the campaign will focus on reaching disadvantaged and vulnerable communities to alleviate the burden of utility bills.	Public Works	Phase 1	▪ Bureau of Reclamation WaterSMART Drought Resiliency Program ▪ Bureau of Reclamation WaterSMART Water and Energy Efficiency Grant ▪ Department of Water Resources Urban Community Drought Relief Program
W-1h	Partner with EBMUD, the Contra Costa Master Gardeners, and/or Pinole Garden Club to develop community programs to encourage water-wise landscaping and watering practices and to provide a hands-on learning experience such as sheet mulching lawn conversions for members of the community. Include promotion of EBMUD Lawn Conversion rebates.	Public Works	Phase 1	
W-1i	Continue to partner with Rising Sun to provide Green House Calls to residents to provide high-efficiency fixtures/fittings and leak detection tests.	Public Works	Phase 1	
W-1j	Work with EBMUD to provide existing commercial entities that have decorative or non-functional turf onsite with the education and resources necessary to transition to regenerative landscapes with a goal of replacing all existing commercial decorative or non-functional turf by 2030.	Public Works	Ongoing	
W-2. Increase the community's use, supply, and access to recycled water.				
W-2a	Continue to work with EBMUD to complete a feasibility study to identify opportunities to increase supply of recycled water to the City. The feasibility study will: ▪ Analyze opportunities to expand purple piping infrastructure ▪ Identify opportunities and technologies to increase recycled water supply ▪ Evaluate potential impacts to cost of service ▪ Investigate ways to maintain or decrease costs of service through the projects ▪ Identify customers that would benefit from receiving recycled water within City of Pinole and adjacent to the City, in Hercules or other surrounding jurisdictions, as applicable	Public Works	Phase 1	Water Recycling Funding Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
W-2b	Pursue funding opportunities at the state and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to fund recycled water infrastructure and to increase the equitable distribution of recycled water in the City.	Public Works	Phase 1	Water Recycling Funding Program
W-2c	Investigate working with EBMUD to promote the installation of greywater equipment in homes and businesses through a multi-lingual Laundry-to-Landscape outreach campaign. The campaign shall include: ▪ Educational information on the environmental and financial benefits of greywater systems ▪ Information on how to install and use the systems, including information on EMBUD greywater rebates ▪ Distribution of educational materials at the City's permitting counter ▪ Supplemental event(s) hosted with EBMUD or industry expert to educate community members on the installation and use of the systems, including an existing residential greywater system demonstration ▪ Direct outreach to multi-family property owners.	Public Works	Phase 1	
W-2d	Create and implement a phased outreach campaign to educate the community on the benefits of recycled water as well as dispelling misconceptions to and increase community use.	Public Works	Phase 1	
W-2e	Upon completion of the feasibility study to identify opportunities to increase supply of recycled water to the City, work with EBMUD to develop a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used.	Public Works	Phase 1	Water Recycling Funding Program
Strategy CS. Carbon Sequestration				
CS-1. Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.				
CS-1a	Develop and adopt a Community Urban Forest Plan by 2026 to identify and prioritize tree planting areas in the City. The Plan will: ▪ Inventory the existing urban forest as a baseline and identify areas in Pinole that have below average canopy coverage (such as census block groups 60133640021, 60133640023, and 60133922004) and high urban heat island effects. ▪ Design a tree planting program focused on eliminating significant difference in canopy coverage between census blocks by 2040.	Public Works	Phase 1	Urban and Community Forestry Grant Program

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CS-1a cont.	- Identify a phased timeframe for program implementation. - Establish a management plan for existing trees that will focus on promoting street tree health, enhancing resilience, increasing the environmental benefits and co-benefits from trees, and engaging the community in urban forest management. - Establish a tracking system to assess progress towards annual goals and annual benchmarks.			
CS-1b	Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the Urban Forest Inventory and Management Plan and share the plan on the City's website.	Public Works	Phase 1	CalFire Urban and Community Forestry Grant
CS-1c	Continue protecting existing trees on private property through the provisions of PMC Chapter 17.96 (Tree Removal) and amend the Municipal Code to require as a condition of approval when a Tree Removal Permit is issued either planting on-site replacement trees or paying an in-lieu fee equal to at the value of the protected tree.	Public Works	Phase 1	Arbor Day Foundation Tree City USA Designation
CS-1d	Prioritize tree implementation in areas with populations most at risk to extreme heat impacts (older adults, children, outdoor workers, individuals with disabilities, transit dependent individuals, and individuals with chronic health conditions) pursuant to the Urban Forest Inventory and Management Plan.	Public Works	Phase 1	Office of Planning and Research Integrated Climate Adaptation: Extreme Heat Mitigation
CS-1e	Review, enhance, update, and regularly maintain the City's existing "Tree" webpage with relevant information, such as best practices for watering and fertilizing trees, guidelines for pruning and maintenance, information on local tree species, and resources for reporting tree damage or disease. Additionally, provide information on the benefits of a healthy tree canopy, including improved air and water quality, reduced urban heat island effects, and increased property values.	Public Works	Phase 1	
CS-1f	Amend the Municipal Code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment.	Community Development	Phase 1	
CS-1g	Continue to pursue and obtain grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Cal Fire's Urban and Community Forestry Program, and the	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CS-1g cont.	California Natural Resources Agency's Urban Greening Program) available grants for tree planting and urban greening projects.			
CS-1h	Develop a City incentive program for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below average tree equity or canopy coverage, pursuant to the Urban Forest Inventory and Management Plan.	Public Works	Phase 2	CalFire Urban and Community Forestry Grant
CS-1i	Partner with a local nursery to host regular tree planting events and volunteer opportunities to engage community members in the effort to maintain and expand the local tree canopy.	Public Works	Phase 2	Arbor Day Foundation
CS-1j	Work with a community non-profit organization to develop an adopt a tree program increase the urban tree canopy in marginalized communities	Public Works	Phase 2	
CS-1k	Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing and planting trees in prioritized areas pursuant to the Urban Forest Inventory and Management Plan, paying for tree maintenance in disadvantaged and vulnerable communities in the City, or supporting staff resources for the Urban Forest Management Program.	Public Works	Phase 3	
CS-2. Increase nature-based and technological carbon sequestration and capture opportunities in Pinole.				
CS-2a	Seek funding to conduct a study to quantify the carbon stock in existing Pinole blue carbon ecosystems (e.g., eelgrass in San Pablo Bay) and quantify the carbon sequestration potential of blue carbon restoration and expansion.	Public Works	Phase 1	
CS-2b	Partner with concrete producers to research opportunities for technological carbon sequestration in Pinole including potential funding mechanisms (e.g., Verra's Methodology for CO ₂ Utilization in Concrete Production).	Public Works	Phase 1	
CS-2c	Based on the studies, develop a plan to increase carbon sequestration in Pinole. The plan shall include a quantitative carbon sequestration target to be achieved by 2045 and a process for regular monitoring of carbon stocks.	Public Works	Phase 1	
CS-2d	Create an educational campaign that informs members of the community about the benefits and methods associated with carbon sequestration and capture that avoids jargon and clearly explains the opportunities and benefits in the City. Confirm that the educational materials are provided in a multi-lingual, culturally considerate manner and distributed specifically to disadvantaged community members.	Public Works	Phase 1	

Table 11 Implementation of Adaptation Strategies, Measures, and Actions

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
Strategy CAR. Community Adaptation and Resilience				
CAR-1. Establish a reliable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.				
CAR-1a	Conduct an assessment on the effectiveness of current City resilience center operations. Conduct a study regarding the feasibility of additional community locations (e.g., Pinole Youth Center and Pinole Library) that could serve as resilience centers by evaluating current amenities and resources available. As part of the studies, verify that the needs of vulnerable populations are met during climate hazard events and host focus groups with selected community-based organizations and other interested parties to identify needs for their service population.	Public Works	Phase 1	
CAR-1b	Identify and apply for funding opportunities that support development of a resilience center, and/or staff positions to maintain the center, such as the Office of Planning and Research Regional Resilience Grant Program.	Community Development	Phase 1	
CAR-1c	Utilizing the City's "Energy Conservation, Generation, and Storage Assessment" conducted in 2024, establish an upgrade and maintenance cycle, including replacement of filters with at least a MERV 11 rating on a quarterly basis for all existing HVAC systems in City owned buildings.	Public Works	Phase 1	
CAR-1d	Work with WestCAT to establish a list of vulnerable community members (e.g., older adults, who may not be able to access a vehicle or public transportation during a heat wave), as well as a program to transport them to established resilience centers.	Public Works	Phase 1	5310 Senior Access Fund
CAR-1e	Provide essential resources such as health programs, food, refrigeration, charging stations, basic medical supplies, and other emergency supplies at all City resilience centers, as well as educational materials on resources and climate adaptation and preparedness. Audit and refresh supplies on a biannual basis, including information on any new or updated programs or resilience center locations.	Community Development, Public Works	Phase 1	
CAR-1f	Partner with local public or private entities to establish resilience centers at privately owned facilities in the City.	Community Development	Phase 2	
CAR-2. Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.				
CAR-2a	Review and update the City's Emergency Information webpage to reflect ways to prepare for events that may be likely to increase due to climate change, including wildfires, floods, extreme precipitation, extreme heat, poor air quality, and drought, as well as heat-related illness, exacerbate mental stress, and respiratory diseases	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CAR-2b	Assess current City capacity to shelter displaced residents including facilities, infrastructure, services, and community programs during an extreme weather event.	Public Works	Phase 1	
CAR-2c	Partner with community-based organizations to establish a working group to develop designated temporary housing options for wildfire displaced residents to live in for up to two years after their home is destroyed or severely damaged.	Community Development	Phase 1	
CAR-2d	Require that all emergency preparedness and evacuation communications are provided in plain language and translated into Spanish, Tagalog, and Cantonese to support non or limited English speakers. Increase participation in emergency notification systems including the Community Warning System and PG&E Community Wildfire Safety Program through social media campaigns and physical flyer distribution.	Community Development	Phase 1	
CAR-2e	Provide administrative support and dedicate staff time for grant writing and funding tracking for climate adaptation and resilience projects, including opportunities to increase and enhance communication such as preparation of interactive websites and information sharing resources.	Community Development	Phase 1	
CAR-2f	Identify critical facilities in need of reliable sources of sustained electrical power during events of extreme climate. Assess power loads at each critical facility, determine costs and technology options for battery storage, and make any additional recommendations to the City Council prior to advancing construction.	Public Works	Phase 1	
CAR-2g	Utilize Pinole Community Television (PCTV) to provide consistent information to community members about adaptation preparedness by providing multi-lingual information that is accessible for people including seniors, individuals with disabilities, children, and caregivers.	Community Development	Phase 1	
CAR-2h	Create evacuation procedures for vulnerable populations in partnership with community-based organizations and facilities that serve identified populations. Host and/or participate in in-person engagement and incorporate games/activities to educate the community on preparedness.	Community Development	Phase 1	
CAR-2i	Require that the City's resilience centers have adequate backup power sources and battery storage to mitigate service disruptions and provide redundancy in the event of a power outage.	Public Works	Phase 1	
Strategy FC. Flood Control				
FC-1. Improve the quality of and reduce the quantity of stormwater runoff through Implementation of the Pinole Green Infrastructure Plan.				
FL-1a	Prepare a feasibility study to investigate potential infrastructure improvements to relocate critical City infrastructure, such as the Senior	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
FL-1a cont.	Center, Pinole Police Department, and Tiny Tots, from the 100-year flood zone. The feasibility study would include: 1. Identifying potential alternative locations for the City's critical infrastructure that's located in the 100-year flood zone. 2. Preliminary design and construction of new buildings or facilities. 3. Analysis of costs associated with relocating facilities as well as the potential costs of doing nothing. 3. Outreach to community members and other interested parties to confirm that the relocation aligns with the community's needs.	Public Works	Phase 1	
FL-1b	Continue participation in the Contra Costa County Multi-jurisdictional Hazard Mitigation Plan update; identify flood mitigation actions eligible for grant funding through FEMA hazard mitigation assistance programs.	Public Works	Phase 1	
FL-1c	Encourage landlords to consider how to prepare their properties for flooding by providing retrofit informational resources and educate them on prioritizing low-impact stormwater best practices.	Community Development	Phase 1	
FL-1d	Create educational campaigns that connect with vulnerable populations to increase awareness and knowledge of how to mitigate and weather flooding.	Community Development	Phase 1	
FL-1e	Identify and apply for grant opportunities to fund stormwater related projects from sources such as the State Water Resources Control Board, California Natural Resources Agency, the Coastal Conservancy, California Water Foundation, as well as the United States Environmental Protection Agency and the United States Department of Agriculture.	Community Development	Phase 1	
FL-1f	Review existing best practice and conduct studies of combined riverine/shoreline flooding and increased severity of rainfall events on watershed flooding.	Public Works	Phase 2	
FL-1g	Complete the Storm Drainage Master Plan as identified in the Capital Improvement Plan to thoroughly investigate deficiencies in the existing storm drain system and prioritize infrastructure improvements.	Public Works	Phase 2	
FL-1h	Implement stormwater and drainage projects identified in the City Capital Improvement Plan, to mitigate localized flooding incidents.	Public Works	Ongoing	
FL-1i	Conduct post-flood inspections for residents and business owners upon request and provide post-disaster home repair and technical assistance for vulnerable communities.	Public Works	Ongoing	
Strategy SLR. Sea Level Rise				
SLR.1. Create, restore, and protect natural coastal ecosystems.				
SLR-1a	Conduct a shoreline stabilization study to determine the most effective methods for protecting Pinole's shoreline communities and infrastructure from erosion and sea level rise, and to identify opportunities for restoring	Public Works	Phase 1	Division of Boating and Waterways Beach Grant

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SLR-1a cont.	natural shoreline habitats that can serve as a buffer against storm surges and other impacts of climate change. The study would involve the following: 1. Assessing the physical characteristics of the shoreline 2. Evaluating the potential risks and benefits of different stabilization techniques 3. Engaging with local community members and other interested parties to ensure that the chosen strategies align with community needs and values. 4. Prioritizing options that enhance and maximize shoreline resources and access including considering innovative nature-based solution approaches.			
SLR-1b	In collaboration with Contra Costa County and state agencies, develop a sea level rise resilience and adaptation strategy with shoreline restoration projects using innovative nature-based solutions and green engineering that would enhance public access, shoreline habitat (e.g., re-establishing native dune habitats, wetlands, and lagoons) and increase shoreline recreational opportunities.	Public Works	Phase 1	
SLR-1c	Partner with the San Francisco Bay Conservation and Development Commission (BCDC), and/or similar entities, regarding regional approaches, strategies, and mitigation actions to address sea level rise. Implement a Shoreline Management Plan, and/or a Shoreline Monitoring Program that would identify erosional hotspots and timely response.	Public Works	Phase 1	
SLR-1d	Establish annual budgets for projects within and benefiting vulnerable populations (2016, Assembly Bill 1550), including seniors, individuals with disabilities, children, low-income communities, and communities in low-lying areas.	Public Works	Phase 1	
SLR-1e	Research external funding opportunities, including grants to support shoreline resilience, shoreline restoration projects, or beach nourishment (e.g., Living Shoreline and Nature-based solution projects). Examples of grantee agencies are California Coastal Conservancy, California Coastal Commission, California Ocean Protection Council, NOAA, California Division of Boating and Waterways).	Public Works	Phase 1	
SLR-1f	Identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. It might be done through the designation and zonation of lands into a Local Coastal Program or providing additional incentives to encourage creation of new recreation areas or opportunities. Additionally, plan for future shoreline recreational space and	Public Works	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
SLR-1f cont.	parkland by protecting open space adjacent to shoreline habitats, allowing the beach and habitats to migrate into these spaces.	Public Works	Phase 2	
SLR-1g	Partner with West Contra Costa Unified School District, private schools in Pinole, East Bay Parks, East Bay Municipal Utility District, Friends of Pinole Creek Watershed, 350 Contra Costa, or similar entities to create educational opportunities for the community around the Pinole Creek Watershed. These programs would focus on educating youth in Pinole on the importance of natural shoreline ecosystems, their role in climate resilience, biodiversity, and local, native species. The programs would also include information on how people can actively get involved in adapting to climate change in their homes and neighborhoods and provide hands-on volunteer opportunities for the community to participate.	Public Works	Phase 2	
SLR-1h	Increase the City's near and long-term capacity building to be able to develop and implement thoughtful shoreline resilience projects by creating a position for and hiring a shoreline resilience expert. The specific title may vary depending on the individual's background and the focus of their work within the broader context of climate change and sea level rise.	Public Works	Ongoing	
Strategy EH. Extreme Heat				
EH-1. Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.				
EH-1a	Partner with West Contra Costa School District and the private schools in the City to map out each campus in Pinole to understand the current infrastructure and then develop a plan to reduce the heat islands in Pinole's schools and adjacent areas, including on walking routes by plant trees or increasing shade structures as appropriate.	Community Development	Phase 1	CalFire Urban Community Forestry Grant: Green Schoolyards
EH-1b	Establish a tree removal replacement policy where trees that are removed are replaced with shade trees that are adapted to the area.	Public Works, Community Development	Phase 1	CalFire Urban Community Forestry Grant
EH-1c	In collaboration with Contra Costa Health Services, establish local early heat warning system that provides public health alerts in Spanish, Tagalog, and Cantonese.	Public Works	Phase 1	
EH-1d	Complete an assessment that evaluates new cool pavement technology, cost/benefits, and challenges and opportunities. Upon completion of the study, conduct a pilot of cool pavement application at a centralized area in Pinole that is most impacted by extreme heat to demonstrate success of the program.	Public Works	Phase 1	Caltrans Sustainable Transportation Planning Grant

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
EH-1e	Partner with WestCAT to audit existing bus stops in the City of Pinole with information detailing the current structures around the transit stops. Create a prioritization list of stops with low shading scores. Identify opportunities to add, replace, or upgrade existing transit stop shelters to provide increased shade for the transit riders and work with WestCAT to implement the identified opportunities.	Public Works	Phase 1	Caltrans Sustainable Transportation Planning Grant
EH-1f	Identify trees, grasses, and shrubs with greatest cooling benefits and maximum biodiversity potential and plant them in prioritized open spaces.	Public Works	Phase 1	
EH-1g	Identify grant funding opportunities and engage with local nurseries (e.g., Oaktown, Watershed Nursery, and Native Here) and tree planting programs to identify appropriate and cost-effective California native plants/trees that can be both planted in the ground or remain potted by residents living in rental/multi-family homes.	Public Works	Phase 1	
EH-1h	Amend the Building Code to require cool roofs for all new construction.	Public Works	Phase 1	
EH-1i	Partner with emergency management services to establish backup power and energy grid shutdown protocols that protect the most vulnerable populations (e.g., seniors, individuals with chronic health conditions, children, individuals with disabilities).	Public Works	Phase 1	FEMA Hazard Mitigation Grant
EH-1j	Identify opportunities to apply compost as mulch at City open spaces to improve water-holding capacity and filtration to combat extreme heat.	Public Works	Phase 1	
EH-1k	Identify a location in the City to establish a "Community Corner" redevelopment project as a model design project to reduce urban temperatures. Incorporate trees, grasses, and shrubs with the greatest cooling benefits into the project, utilize compost in the project's landscaping, and incorporate cool pavement technology, cool roofs, and shade structures where applicable. Further consider incorporating a rain garden and resilience center resources into the redevelopment project and publicize all resilient design elements through signage on the property and community tours.	Public Works	Phase 1-2	California Natural Resources Urban Greening Grant, Strategic Growth Council Community Resilience Center Grant
EH-1l	Support development of community-serving microgrids and prioritize areas with high social vulnerability.	Public Works	Phase 2	
EH-2. Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.				
EH-2a	Partner with NASA, or a similar organization to create a digital map of the City showing neighborhoods where it is the hottest and identify a location or locations to pilot an urban heat mural project.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
EH-2b	Post the map on the City's website and host community feedback sessions to update the analysis included in the map based on real lived experiences. Additionally, post mural design concepts that are created as part of Action EH-2c to foster a sense of ownership over the project.	Public Works	Phase 1	
EH-2c	Create a partnership with Contra Costa College, Pinole Artisans, West Contra Costa Unified School District, private schools, and/or similar interested parties and community-based organizations to design and paint mural(s) that inspire the community while reducing indoor heat using reflective paint.	Public Works	Phase 1	
EH-2d	Install indoor and outdoor temperature sensors in the identified locations prior to completing the mural and continue to track data after the murals are installed to measure indoor changes in temperature to quantify the benefits of the project.	Public Works	Phase 1	
EH-2e	Identify and apply for grants to fund the completion of the mural and/or work with cool paint manufacturers to supply a small amount of paint at no cost for a pilot project where their name would be included on a plaque with volunteer artists who partner with the City to donate their time and expertise to create a unique project.	Public Works	Phase 1	
EH-2f	Host a community unveiling ceremony where the artists and project partners are invited to participate in a meet and greet and celebrate the community in an unveiling celebration that can also be used to provide the community with information on the status of the Climate Action and Adaptation Plan implementation and resources including relevant community incentives and rebates.	Public Works	Phase 1	
Strategy WF. Wildfire				
WF-1. Enforce defensible space and home hardening standards to mitigate structure ignitions from wind-blown embers and direct flame impingement in fire hazard severity zones and protect the community from wildfires.				
WF-1a	Partner with Housing Authority Contra Costa to conduct a study that estimates potential housing displacement impacts associated with wildfire events.	Community Development	Phase 1	
WF-1b	Conduct a feasibility study and if recommended, amend the Pinole Building Code Title 15 (Building and Construction) to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone.	Public Works	Phase 1	
WF-1c	Develop a subsidy program to improve air quality in the homes of low-income residents or vulnerable community members to mitigate impacts from wildfire smoke.	Contra Costa Fire Protection District, Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
WF-1d	Partner with West Contra Costa Fire Safe Council to help secure grant funding for mitigation activities that promote fire safe retrofits of existing structures that meet ignition-resistant building codes.	Community Development	Phase 1	
WF-1e	Conduct a built asset vulnerability assessment to identify which City-owned facilities and infrastructure have the highest risk to wildfire impacts, identify opportunities to mitigate risk and implement changes.	Public Works	Phase 1	
WF-1f	Evaluate and help identify and apply for funding for infrastructure improvements at Pinole Fire Station 74 to mitigate against wildfire hazards (fire breaks, fire resistant building materials, etc.).	Contra Costa Fire Protection District	Phase 1	
WF-1g	Actively engage in collaborative efforts to reduce wildfire risks, implementing effective mitigation strategies, and fostering a culture of fire safety through education and community involvement to achieve Firewise recognition	Contra Costa Fire Protection District	Phase 1	
WF-1h	Prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas.	Contra Costa Fire Protection District, Community Development	Phase 1	
WF-1i	Continue to conduct proactive vegetation/weed abatement enforcement by removing vegetation and/or brush in areas adjacent to wildfire hazard zones, including both public and private property. Establish a comprehensive defensible space zone and fire breaks within the VHFHSZ, and a regular maintenance schedule. A FEMA approved HMP can establish eligibility for grant funding to complete fuel modification projects.	Public Works	Ongoing	
WF-1j	Locate future critical facilities outside of the wildfire hazard zone.	Community Development Department	Ongoing	
WF-1k	Continue to coordinate with PG&E through Rule 20A Program to underground utility lines to mitigate wildfire risk.	Community Development Department and Public Works	Ongoing	
WF-1l	Conduct on-going workshops on defensible space, vegetation management, and home-hardening techniques based upon most up to date CAL FIRE management guidelines and policies for landowners in fire hazard severity zones.	Contra Costa Fire Protection District	Ongoing	▪ USDA Community Wildfire Defense Grant ▪ CAL FIRE Wildfire Defense Grant

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
WF-1m	Foster a community partnership that can successfully apply for and receive funding from programs such as the CAL FIRE Defensible Space Assistance Grant program and upcoming opportunities that become available.	Community Development	Ongoing	

Table 12 Implementation of Municipal Strategies, Measures, and Actions

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
Strategy CIO: City Infrastructure and Operations				
CIO-1. Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.				
CIO-1a	Adopt an electrification ordinance in 2024 requiring all new municipal construction to be fully electric after calendar year 2024 without any natural gas connections.	Public Works	Phase 1	California Energy Commission Energy Partnership Program
CIO-1b	Complete an analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system. Pursue replacement funding through PG&E on-bill financing and California Energy Commission (CEC) 1% Loans.	Public Works	Phase 1	
CIO-1c	By 2025, adopt a Resolution requiring the implementation of a building and facility electrification plan to electrify or otherwise decarbonize all municipal buildings by 2035.	Public Works	Phase 1	
CIO-1d	Develop a plan to electrify or otherwise decarbonize all municipal buildings and facilities by 2035 which will include: - An inventory of existing fossil fuel-powered buildings and facility equipment, available electric or zero/low-carbon alternatives for replacing each, and relevant costs and benefits of replacing each (e.g., lifespan, equipment costs, operational quality). - A prioritized schedule for completion based on potential to reduce natural gas and propane usage. - Prioritize upgrades that benefit vulnerable communities first, such as the Senior Center, Youth Center, and Tiny Tots facilities.	Public Works	Phase 1	
CIO-1e	Expand efforts to obtain funding for municipal building and facility decarbonization through grants, incentives, or financing provided by entities such as: - DOE Block Grants - Leases: Capital lease, Operating Lease, Tax-Exempt Lease purchase (4-5%) - Loans and Grants: 1% CEC Loan, Dept. of Energy Grants, Federal Grants (IIJA, IRA) - On-Bill Financing - Energy as a Service (EaaS) - Energy Savings Performance Contract (ESPC, guaranteed energy savings help pay for the project) from Energy Service Companies (ESCOs) - Grant Anticipation Notes or other Short-Term Notes/Loans	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-1f	Upgrade all municipal electricity accounts to MCE Deep Green by 2025.	Public Works	Phase 1	
CIO-1g	Plan, fund, and conduct an electrification pilot project at a municipal facility (e.g., the Library). Promote the demonstrated benefits of the fully electric building (e.g., cost-savings, GHG emission reductions) and publicize the planning, design, installation, and post-operation of the project to make the steps to electrification transparent to the community.	Public Works	Phase 2	
CIO-1h	Partner with regional organizations such as the Building Decarbonization Coalition to train City staff, community members and volunteers on the benefits and technical requirements of electrification, help them implement the building and facility electrification plan and empower them to be advocates for electrification across the community.	Public Works	Phase 2	
CIO-2. Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.				
CIO-2a	Expand and update the City's fleet vehicle replacement schedule to transition 30% of the municipal vehicle fleet to ZEVs by 2026 and 100% by 2040. Review the replacement schedule and ZEV transition goals every 2 years and update them as needed based on updates to state regulation and ZEV market availability.	Public Works	Phase 1	
CIO-2b	Complete a Municipal Electric Vehicle Infrastructure Plan to analyze the City's charging needs through 2026 and 2040. The plan shall include: ▪ A prioritized list of City-owned properties/locations to install new Level II and DC Fast chargers ▪ An assessment of future electricity demand and potentially energy-constrained locations ▪ A pathway to coordinate with PG&E on installing microgrids or back-up power at City-owned properties to support the ZEVs	Public Works	Phase 1	
CIO-2c	Secure funding from state programs (such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program) and federal sources to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally, explore opportunities for Low Carbon Fuel Standard credit generation from use of low carbon fuels/electricity for fleet vehicles.	Public Works	Phase 1	
CIO-2d	Dedicate staff time to implementing, tracking, and updating the City fleet vehicle replacement plan bi-annually.	Public Works	Phase 1	
CIO-2e	Partner with an entity such as Contra Costa Transportation Authority, to train City staff on the use and charging of electric and zero-emission vehicles and educate them on the benefits of EVs/ZEVs.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-2f	Consider highlighting the City's EV/ZEV fleet at community events such as Earth Month.	Public Works	Phase 1	
CIO-2g	Establish electric vehicle charging infrastructure at and around all City-owned facilities. Apply the profit from community charging towards installing electric vehicle infrastructure in vulnerable communities. Additionally, develop a thoughtful pricing plan that is reviewed and updated annually, or more frequently as appropriate.	Public Works	Phase 2	
CIO-3. Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.				
CIO-3a	Complete an inventory of all municipal off-road equipment and determine which equipment types are possible to decarbonize based on existing technologies. Complete a cost analysis and schedule for decarbonizing.	Public Works	Phase 1	
CIO-3b	Adopt an emissions-free equipment purchasing policy by 2025 for light-duty vehicles and small off-road equipment and vehicles to require purchase and replacement of such categories be electric or emissions-free. Regularly update the policy to include more types of equipment and vehicles as electric and emission-free options become available. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives as well as the health benefits, for residents and businesses.	Public Works	Phase 1	
CIO-3c	Dedicate staff time to implementing and tracking the success of the emissions-free purchasing policy established as part of CIO-3b.	Public Works	Phase 1	
CIO-3d	Dedicate staff time and pursue funding opportunities to electrify and otherwise decarbonize municipal off-road equipment through programs such as: - CORE Incentives - Bay Area Air Quality Management District (BAAQMD) incentives including the Carl Moyer Program	Public Works	Phase 1	
CIO-3e	Partner with the East Bay Regional Park District to co-lead a multi-lingual educational program for staff and City contractors detailing the benefits of using decarbonized off-road equipment, with an emphasis on improved worker health and details on comparable equipment productivity. Information from the educational program should be summarized into an infographic format and posted at parks, City-owned and operated buildings, and shared in the City's newsletter to highlight the emissions and overall health benefits in a way that is easily understood.	Public Works	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-3f	By 2030, begin procuring biofuels (e.g., biodiesel and biogas) to operate municipally owned off-road equipment with no existing opportunities for electrification. Re-evaluate electrification opportunities regularly to ensure biofuels are not being used for equipment that could otherwise be electrified.	Public Works	Phase 2 – 3	
CIO-4. Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.				
CIO-4a	With employee input, develop a municipal Transportation Demand Management (TDM) Plan by 2028 to encourage and incentivize City employees to reduce their VMT in single-occupancy and fossil-fuel-powered vehicles. Update the plan every 2-3 years based on survey results (e.g., Action CIO-4d) and newly available public transit and bike routes in the community.	Community Development	Phase 1	
CIO-4b	Create an incentive program to reward City employees for biking, ridesharing, and using public transit to commute to work. The program shall provide free public transit passes and free access to electric bicycle programs (where available) to all municipal employees and may include cash incentives or additional paid time-off for employees who bike, rideshare, and use public transit to commute to work.	Community Development	Phase 1	
CIO-4c	Investigate the opportunity to create zero-interest loan program to help employees purchase ZEVs for commute.	Human Resources	Phase 1	
CIO-4d	Develop a remote work policy that encourages municipal office employees to work from home and includes alternative work schedules where feasible.	Community Development	Phase 1	
CIO-4e	Explore options for installing showers in existing City-owned facilities and bike lockers along City-owned streets, where appropriate, to encourage City employees to bike to work and demonstrate the City's commitment to sustainability and community bicycle safety.	Public Works	Phase 1	
CIO-4f	Partner with an entity such as the WestCAT or the Bay Area Air Quality Management District (BAAQMD) to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools. Additionally, partner with 511 Contra Costa to help employees find a carpool match.	Community Development	Phase 1	
CIO-4g	Promote and encourage employee participation in regional and national bike-to-work days/months.	Community Development	Phase 1	
CIO-4h	Develop funding sources to support incentives for City employees to commute to work via EV/ZEV options such as free or discounted employee charging at work.	Community Development	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-4i	Publish the municipal TDM Plan on the City's website and distribute to local businesses to provide the community an example of comprehensive TDM plans that focused on GHG emission reductions and equity.	Community Development	Phase 2	
CIO-4j	Conduct a survey for City staff commute data annually to monitor emissions, identify potential gaps in planning, and better understand how to elicit employee transportation behavior change. Include space for employee feedback and identification of barriers to commuting without a personal vehicle.	Community Development	Ongoing	
CIO-4k	Dedicate staff time to develop, implement, and update the municipal TDM Plan and conduct the annual survey.	Community Development	Ongoing	
CIO-5. Reduce waste generation by 15% by 2025, from 2019 levels and landfill zero waste by 2035.				
CIO-5a	Conduct an indoor and outdoor water audit at all municipal buildings and schedule develop a schedule for water efficiency improvements.	Public Works	Phase 1	
CIO-5b	Adopt a Resolution and assign funding to retrofit or replace all inefficient shower heads, faucets, washing machines, and toilets with low-flow fixtures/water-efficient appliances in existing City-owned, managed, or operated facilities, such as, but not limited to, the Pinole Swim Center, Pinole Senior Center, Pinole Youth Center, and Public Service Facilities by 2030.	Community Development	Phase 1	
CIO-5c	Update the municipal purchasing policy to require WaterSense labeled fixtures and appliances, where feasible. This includes continuing to install waterless units such as urinals and sensor activated sinks.	Community Development	Phase 1	
CIO-5d	Require all non-functional lawns (i.e., grass that is ornamental and not used for recreational purposes) on City-owned property to be removed by 2035 and replaced with native and drought-tolerant landscaping and/or multi-use landscaping (e.g., pollinator-friendly landscapes, edible landscapes).	Community Development	Phase 1	
CIO-5e	Identify, track, and actively pursue funding opportunities from entities such as the California Department of Water Resources and the California Environmental Protection Agency.	Community Development	Phase 1	
CIO-5f	Partner with the Pinole Community Garden Club, Contra Costa County Master Gardeners, or Bringing Back the Natives to educate City employees and the community on water-wise gardening practices, native plants, and growing food, with a focus on the most vulnerable communities.	Community Development	Phase 1	
CIO-5g	Develop and implement a plan to update City-owned properties with improved green stormwater infrastructure (e.g., stormwater systems that direct water towards vegetation, permeable surfaces).	Community Development	Phase 2	

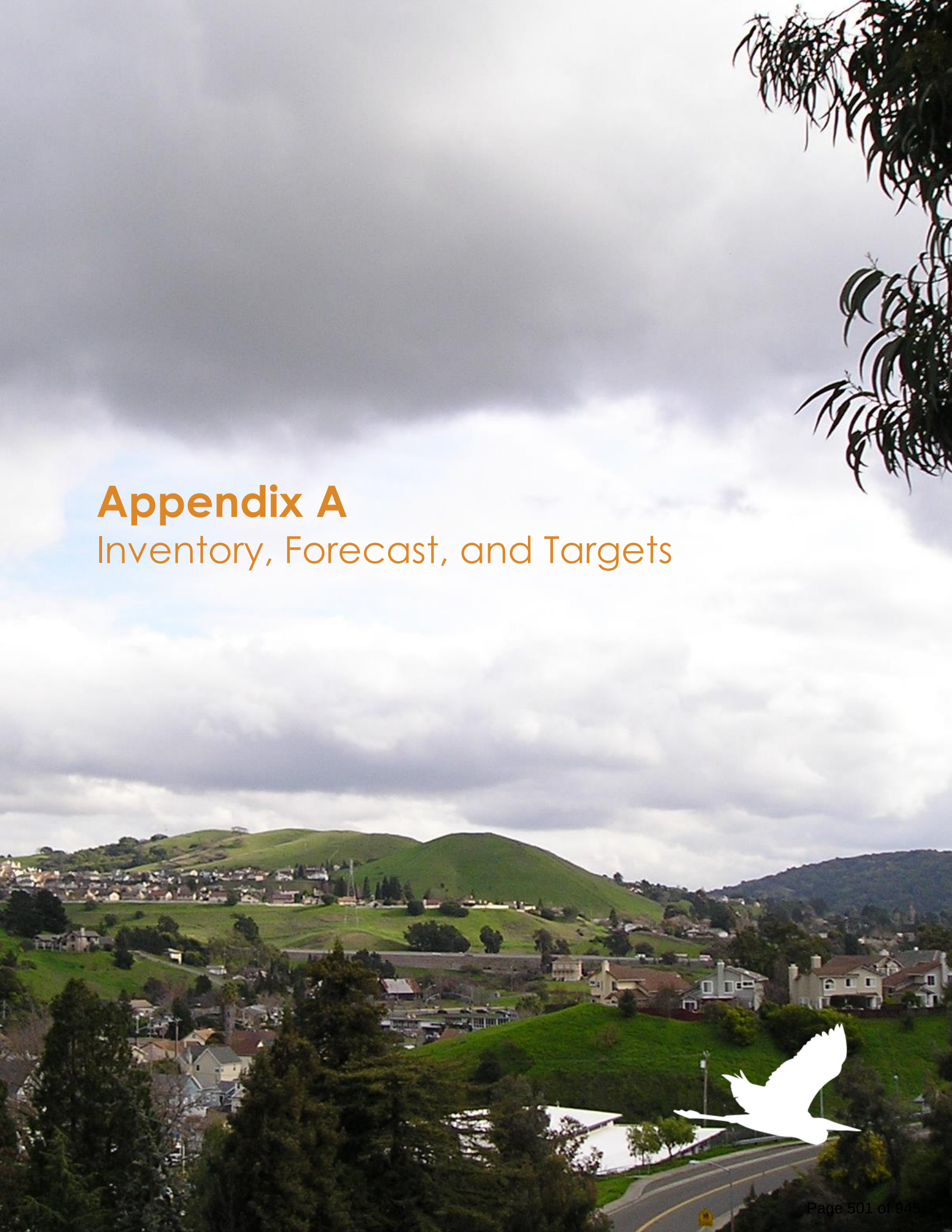
Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-5h	Install submetering at City owned and operated buildings and facilities to track and monitor water use, including creating a succinct way to internally track specific use and complete repairs or prepare targeted education.	Public Works	Phase 2	
CIO-5i	Install rain barrels at the Library to water the native garden as a demonstration project to educate the community about the benefits of collecting rainwater and available incentives. Based on the project's success, consider installing rain barrels at all City facilities for use in landscaping.	Public Works	Phase 2	
CIO-6. Reduce municipal water consumption 10% by 2030, from 2019 levels.				
CIO-6a	Require implementation of the Single Use Plastic Ordinance at all City departments, events, and contracts.	Community Development	Phase 1	
CIO-6b	Provide reusable mugs and foodware items to all new and existing employees to use in an effort to encourage the use of reusable alternatives to single-use items. Provide information on the benefits of reusing resources.	Community Development	Phase 1	
CIO-6c	Complete an audit on current bin infrastructure and bin signage in each municipal facility and at City events. Establish a clear plan to install/distribute adequate compost and recycling bins throughout all facilities and to all events, and improve signage so that accepted landfill, recyclable, and compostable materials are clearly identified for each bin.	Community Development	Phase 1	
CIO-6d	Partner with an entity such as Republic Services to provide annual training to City employees on current waste management practices, any modifications to the practices, and proper disposal methods. Empower them to educate the community on the benefits and proper methods of recycling and composting and use this as an opportunity to promote the City's existing programs, such as the free mulch program, shredding program, household hazardous waste collection, as well as expand programs as appropriate.	Community Development	Phase 1	
CIO-6e	Work with CalRecycle and similar entities to identify and secure grants that fund waste diversion and educational programs.	Community Development	Phase 1	
CIO-6f	Create a shared resource area within each City-owned facility dedicated to lightly used office supplies such as staplers, tape dispensers, pens, and pads of paper, facilitating the reuse of items among staff members and promoting efficiency and reducing waste.	Community Development	Phase 2	
CIO-6g	Partner with local jurisdictions including surrounding cities and the county to create an inter-office or inter-jurisdiction surplus program where City offices can provide items (e.g., pieces of furniture) for reuse for free to other offices within the City or other jurisdictions.	Public Works	Phase 2	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-6h	Create a buy-nothing group for City staff to share resources and items that they may no longer be interested in or have a use for at their homes.	Public Works	Phase 2	
CIO-6i	Perform a waste audit every two years to track waste sources, gaps in signage and education, and opportunities to strengthen the purchasing policy (e.g., based on problem-some materials continuing to the landfill or the contaminating recycling and composting streams).		Ongoing	
CIO-7. Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.				
CIO-7a	Complete a feasibility study to evaluate various options for infrastructure improvements of Pinole-Hercules Water Pollution Control Plant to mitigate against sea level rise and flood hazards. Develop a long-term management plan to address impacts of sea level rise, which incorporates any potential maintenance, relocation, or retrofits and structural changes to accommodate changes in sea level.	Community Development	Phase 1	
CIO-7b	Collaborate with the San Francisco Bay Regional Water Quality Control Board to increase the Pinole-Hercules Water Pollution Control Plant's resilience to sea level rise and stronger storms. For example, implement a trigger-based Coastal Hazard Monitoring Program, which would allow to implement improvements or relocate in a timely manner, and conduct feasibility studies from technical experts, retrofitting, relocating, or eliminating outfalls deemed "at risk."	Community Development	Phase 1	
CIO-7c	Provide alternate routes and ensure redundancy of critical transportation routes, as possible, to allow for continued access and movement to and along the coast in instances in which sections of roadways may become temporarily impassible because of shoreline hazards. Additionally, inform City staff, residents, and visitors about alternate routes to shoreline areas.	Public Works	Phase 1	
CIO-7d	Host working groups with community-based organizations, experts in the field, and interested parties to identify and prioritize vulnerable communities, involve them in decision-making, use community benefits agreements, prioritize underserved communities, and consider the financial impact on residents.	Community Development	Phase 1	
CIO-7e	Identify and apply for a grant funding source to fund facility upgrades, relocation, or additional analysis through entities such as the San Francisco Bay Conservation and Development Commission, California Coastal Commission, National Oceanic and Atmospheric Administration (NOAA), or Federal Emergency Management Agency (FEMA).	Community Development	Phase 1	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CIO-7f	Conduct a detailed and City-specific groundwater emergence threat assessment, factoring in local geomorphology and groundwater data, for use in future planning and analysis.	Public Works	Phase 2	
CIO-7g	Incorporate policy guidance and model ordinance language in Citywide plans, policies, and regulations to prioritize strategies that reduce potential impacts due to sea level rise and shoreline hazards and increase the resilience of the City's shoreline areas.	Community Development	Phase 2	
Strategy CG: City Governance				
CG-1. Build staffing capacity to effectively implement the CAAP Mitigation Measures and update the CAAP triennially.				
CG-1a	Create a new full-time staff position to oversee CAAP implementation, monitoring, and reporting; and cross-department collaboration (i.e., Climate Coordinator work in Action CG-1).	Community Development	Phase 1	
CG-1b	Identify a Climate Coordinator from each of the City's main departments and divisions. The Climate Coordinators will meet for quarterly sustainability peer-to-peer information sharing sessions to discuss challenges, brainstorm solutions, and track progress towards reaching the City's CAAP key performance indicators. This team will serve as the key organizers for cross-departmental collaboration needed to implement climate goals, as well as community contacts and key researchers for emerging technologies and best practices in climate action.	All Departments	Phase 1	
CG-1c	Conduct an annual staff survey to determine the following: - Existing staff interest in leading climate initiatives to identify internal champions. - Staff capacity to implement CAAP actions, monitor progress, and report updates; and associated capacity gaps to fill.	Community Development Department	Ongoing	
CG-1d	Include a description of Pinole's climate goals and values in job postings, improving talent acquisition and potentially boosting retention and worker morale.	Human Resources	Phase 1	
CG-1e	Identify and apply for climate staffing assistance through fellowship/internship programs including the Climate Corps Fellowship, California Pacific University, and CivicSpark to increase internal staff capacity for CAAP implementation and bring in innovative ideas.	Community Development Department	Phase 1	
CG-1f	Earmark funding for CAAP updates.	Finance	Ongoing	

Action ID	Action Text	Responsible Department	Phase	Potential Grant Funding Sources
CG-2. Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.				
CG-2a	Join the Institute for Local Government's Beacon Program to support transparent CAAP reporting through access to technical assistance, regional networking and education opportunities, and opportunities to recognize Pinole's climate action achievements.	Community Development	Phase 1	
CG-2b	Conduct a communitywide GHG inventory every two years and a municipal GHG inventory every five years.	Community Development	Ongoing	
CG-2c	Report communitywide GHG emissions and progress on Mitigation Measures annually through public reporting tools (e.g., CAPDash) and utilize social media to post updates and results so the community can easily stay up to date.	Community Development	Ongoing	
CG-2d	Regularly update Pinole's CAAP webpage, Sustainability webpages (e.g., Community Choice Energy, EV Charging Stations, Single Use Plastic Reduction), and applicable Public Works webpages (e.g., Water, Garbage and Recycling, Trees) to provide up-to-date information on ordinance, program, and policies as they are updated through CAAP implementation.	Community Development Department	Ongoing	
CG-2e	Explore and track the success of different ways to communicate climate progress transparently to the public (e.g., a dashboard, semi-regular social media posts, City webpages, Pinole TV). Track the number of clicks made on specific links to identify the most successful mechanisms for engagement.	Community Development Department	Ongoing	
CG-2f	Translate key climate outreach materials into non-English languages. Explore partnerships through nonprofits and other organizations that can assist in translation of key materials.	Community Development Department	Ongoing	
CG-2g	Communicate Pinole's climate and green economic development commitments through City branding and communications (beyond dedicated webpages and resources) and utilize existing City meetings and events to emphasize the importance of climate action and bring it into regular City and community discussions.	Community Development Department	Ongoing	
CG-2h	Earmark annual funding for the CAAP update in the budget to demonstrate commitment to implementation and monitoring and to provide a consistent conduit of funding.	Finance	Ongoing	





Appendix A

Inventory, Forecast, and Targets



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January 3, 2024
Project No: 21-11885

Lilly Whalen
Community Development Director
City of Pinole
2131 Pear Street
Pinole, California 94564

Subject: City of Pinole 2017 Community Greenhouse Gas Emissions Inventory Review and Reconciliation Memo

Dear Ms. Whalen:

Rincon Consultants, Inc. (Rincon) has been contracted by the City of Pinole (City) to conduct a peer review of the 2017 greenhouse gas (GHG) emissions community inventory (2017 Inventory), which was originally prepared by East Bay Energy Watch (EBEW) as part of a regional GHG emissions inventory in June 2020. Establishing a consistent methodology and accurate baseline emissions inventory provides the City with an opportunity to track the success of their sustainability and climate action efforts and establish a pathway to reduce GHG emissions in accordance with the City's and state's goals. Therefore, Rincon has conducted a peer review of the 2017 Inventory to verify that it was completed following the ICLEI Local Governments for Sustainability Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Community Protocol) and with current and accurate data sources and emission factors.¹ This memo contains the results of Rincon's review and reconciliation of the 2017 Inventory. As part of this scope of work, Rincon completed the following:

- Reviewed the activity data, emission factors, and calculations associated with GHG emissions estimates in the 2017 Inventory.
- Identified that water, wastewater, waste, electricity transmission and distribution (T&D) loss, and natural gas methane leak sectors were omitted in the 2017 Inventory.
- Worked with the City to obtain community-level activity data and emission factors related to waste, water, and wastewater, and obtained loss factors and emission factors for electricity T&D losses and methane leaks and completed GHG emissions calculations for these sectors which were added to the updated GHG emissions inventory.
- Identified data source and emission factor improvement opportunities for the off-road sector, on-road transportation sector, and direct access electricity sector.
- Updated the GHG emissions calculations for the off-road sector, on-road transportation sector, and direct access electricity sector using updated models and GHG emission factors.

¹ ICLEI – Local Governments for Sustainability USA. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions Version 1.2.



The sections below provide details on the review and reconciliation process, an overview of the data sources and methodologies used to perform the GHG emissions updates, and calculations for the offroad, transportation, energy, waste, water, and wastewater sectors, as well as a summary of the updated 2017 inventory (Updated Inventory). The Updated Inventory results are intended to be used by the City of Pinole to develop GHG emissions forecasts and reduction targets and support the City's climate action planning (CAP) efforts.

Inventory Review and Reconciliation

Background

As mentioned above, the City of Pinole's 2017 Inventory was completed by EBEW as part of a regional GHG emissions inventory in June 2020. The 2017 Inventory was completed in accordance with the Community Protocol. ICLEI protocols serve as the national standards for local-scale accounting of GHG emissions that contribute to climate change and provide authoritative guidance to account for GHG emissions accurately and consistently. The Community Protocol serves to guide the measurement and reporting of GHG emissions in a standardized way and is used by other jurisdictions to support their own inventory, forecast, and climate action planning efforts.

In accordance with recommendations in the Community Protocol, the 2017 Inventory includes carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions, measured collectively in units of metric tons (MT) of carbon dioxide equivalent (CO₂e) from activities that occurred in the 2017 calendar year under the operational control of Pinole. The 2017 Inventory used 100-year global warming potentials (GWP) for each gas that are consistent with the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, which were also used by the state in their latest GHG emissions inventory.² The GWP refers to the ability of each gas to trap heat in the atmosphere. For example, one pound of CH₄ gas has 28 times more heat capturing potential than one pound of CO₂ gas. In other words, one MT CH₄ is equivalent to 28 MT CO₂e in terms of warming potential. The GWPs used for each gas as part of the GHG emissions calculations for the 2017 Inventory, as well as primary sources for each gas, are shown in Table 1.

Table 1 2017 Inventory GHGs and GWPs

Greenhouse Gas	Primary Source	100-year GWP
Carbon dioxide (CO ₂)	Combustion	1
Methane (CH ₄)	Combustion, anaerobic decomposition of organic waste (e.g., in landfills, wastewater treatment plants)	28
Nitrous Oxide (N ₂ O)	Leaking refrigerants and fire suppressants	265
Source: IPCC Fifth Assessment Report		

² International Panel on Climate Change. 2014. Fifth Assessment Report.



Generally, GHG emissions were calculated by multiplying the activity data in each GHG emissions sector (e.g., transportation, energy, waste, water) by an associated emission factor. Activity data refer to the relevant measured or estimated energy use or GHG-generating process. Emission factors are observation-based conversion factors used to equate activity data to generated GHG emissions. The original 2017 Inventory results are summarized in Table 2. In general, the 2017 Inventory used up-to-date and appropriately aggregated activity data, data sources, and emission factors, and was consistent with calculation methodologies in the Community Protocol.



Table 2 Original 2017 GHG Emissions Inventory for Pinole (East Bay Energy Watch)

GHG Emissions Sector	GHG Emissions Subsector	Activity Data	Activity Data Source	Emissions Factor	Emission Factor Source	GHG Emissions (MT CO ₂ e)
Energy: GHG emissions associated with the consumption of energy for residential and commercial buildings in the jurisdiction.	Residential Electricity	37,413,247 kWh	PG&E	0.000096 MT CO ₂ e/kWh	PG&E, eGRID ¹	3,605
	Nonresidential Electricity	32,505,137 kWh	PG&E	0.000096 MT CO ₂ e/kWh	PG&E, eGRID	3,132
	Direct Access	0 kWh	PG&E	N/A	N/A	0
	Residential Natural Gas	2,777,511 therms	PG&E	0.00531 MT CO ₂ e/therm	PG&E	14,750
	Nonresidential Natural Gas	810,175 therms	PG&E	0.00531 MT CO ₂ e/therm	PG&E	4,302
Transportation: GHG emissions associated with the operation of passenger, commercial, transit, and off-road vehicles within the jurisdiction	Passenger Vehicles	51,150,262 miles	MTC ²	0.000344 MT CO ₂ e/mile	EMFAC2017 ³	17,593
	Commercial Vehicles	8,743,810 miles	MTC	0.001242 MT CO ₂ e/mile	EMFAC2017	10,862
	BART	2,455,392 miles	BART	0.000093 MT CO ₂ e/mile	BART	228
	Off-road	Various	Unknown off-road model	Various	Unknown off-road model	4,753
Waste: GHG emissions associated with decomposition of solid waste in a landfill generated by the jurisdiction	Waste	N/A	N/A	N/A	N/A	0
Water and Wastewater: GHG emissions associated with the electricity used for acquisition, distribution, and treatment of water, as well as with wastewater treatment processes	Water and Wastewater	N/A	N/A	N/A	N/A	0

Source: EBEW

kWh = kilowatt hours; PG&E = Pacific Gas & Electric; MTC = Metropolitan Transportation Commission; MT CO₂e = metric tons of carbon dioxide equivalent; VMT = vehicle miles travelled; BART = Bay Area Rapid Transit

1. eGRID is the Environmental Protection Agency's (EPA) Emissions & Generation Resource Integrated Database (eGRID), which provides regional GHG emission factors for electricity grids across the United States, and is accessed at: <https://www.epa.gov/egrid>

2. The MTC VMT data portal provides VMT data by jurisdiction and is accessed at: <http://capvmt.us-west-2.elasticbeanstalk.com/data>

3. EMFAC2017 is the California Air Resources Board's (CARB) 2017 Emission FACTor (EMFAC) model, which estimates the official emissions inventories of on-road mobile sources in California, and is accessed at: <https://arb.ca.gov/emfac/2017/>



During the review and reconciliation process, the following improvement opportunities and specific solutions to improve the analysis were identified, with the methodologies used to complete these updates further discussed in the next section:

- The 2017 Inventory did not include GHG emissions from waste, water, wastewater, natural gas methane leaks, or electricity T&D losses, which are recommended sectors for inclusion according to the Community Protocol. The inventory was updated to include these sectors.
- EBEW completed the 2017 Inventory in 2020 using the California Air Resources Board's (CARB) OFFROAD2017 model to estimate GHG emissions in the off-road sector. Subsequently, CARB has released OFFROAD2021,³ which contains updated off-road fuel estimates to better account for off-road equipment usage. The off-road sector was updated using results from OFFROAD2021.
- EBEW completed the 2017 Inventory in 2020 using CARB's EMFAC2017 model to estimate emission factors for the on-road transportation sector. Subsequently, CARB has released EMFAC2021, which contains updated emission factors and additional data to better account for electric vehicle usage. The passenger and commercial VMT sectors were updated using results from EMFAC2021 to provide updated transportation emissions estimates.
- In 2017, direct access electricity was not available for the community due to data privacy regulations in the 15/15 rule.⁴ Direct access electricity was estimated using a proxy from 2018, when data privacy regulations were not triggered.

Updated GHG Emissions Inventory Methods

The 2017 Inventory was updated to leverage the latest available models and best available data⁵ in accordance with the Community Protocol. The Updated Inventory serves to provide a comprehensive understanding of the City of Pinole's GHG emissions and was developed to serve the following purposes:

- Provide an understanding of where the highest sources of GHG emissions in the City originate and where the greatest opportunities for GHG emissions reductions exist.
- Create a GHG emissions baseline from which the City can establish a forecast, reduction targets, and evaluate future progress.
- Aid in the development of a future CAP.

The following sections contain further information on the inventory update approach, calculation methodologies, data used, and results.

Water

GHG emissions from water conveyance, delivery, and treatment were calculated following Method WW.14 from the Community Protocol. Activity data (acre-feet [AF] of water delivered to the City of Pinole) were provided directly by East Bay Municipal Utilities District (EBMUD), which provides water

³ CARB's OFFROAD2021 model can be accessed at: <https://arb.ca.gov/emfac/emissions-inventory/d7e33b22a7ef163d2dc9fd91182391d41cb025f9>

⁴ The 15/15 Rule is a California Public Utilities Commission (CPUC) regulation which limits the sharing of aggregated energy usage data when that data includes usage for fewer than 15 customers with any one customer's load exceeding 15 percent of the group's energy consumption.

⁵ The concept of "best available data" is referenced by the World Resources Institute's Greenhouse Gas Protocol (2014).



services for the City of Pinole. Water volume data were used to calculate electricity usage, based on an energy intensity factor for EBMUD's water supply. The energy intensity factor for water was obtained specifically from EBMUD's 2020 Urban Water Management Plan (UWMP).⁶ Electricity usage was further converted to GHG emissions using PG&E's electricity emission factor, as shown in Table 3.

Table 3 Water GHG Emissions Calculations

Activity Data (AF)	Energy Intensity (kWh/AF)	Electricity (kWh)	Electricity Emission Factor (MT CO ₂ e/kWh)	GHG Emissions (MT CO ₂ e)
1,710	379.64	649,204	0.000096	63

Wastewater

GHG emissions associated with wastewater treatment in Pinole arise from stationary combustion and processing at the in-boundary Pinole-Hercules Water Pollution Control Plant, which serves the majority of the population of Pinole.⁷ In 2017, the Pinole-Hercules Water Pollution Control Plant used conventional aerobic treatment systems with nitrification/denitrification processes, as well as operated an anaerobic digester which sent gas to be combusted at a cogen. Wastewater GHG emissions were calculated using Community Protocol Method WW.1.a and WW.2.a to capture CH₄ and N₂O emissions from the anaerobic digester;⁸ Method WW.7 to capture N₂O emissions from nitrification/denitrification; and Method WW.12 to capture fugitive N₂O emissions from effluent discharge. Finally, Community Protocol Method WW.13 was used to attribute GHG emissions at the Water Pollution Control Plant to the City of Pinole, based on information from the City of Pinole that 48 percent of water treated at the Plant comes from Pinole. GHG emissions calculations associated with wastewater are shown in Table 4.

Table 4 2017 Wastewater GHG Emissions Calculations

Sector	Community Protocol Method	Activity Data Input	Activity Data	GHG Emissions (MT CO ₂ e)
Digester Gas CH ₄	WW.1.a, WW.13	Digester gas (cubic feet per day)	60,725	0.59
Digester Gas N ₂ O	WW.2.a, WW.13			1.10
Denitrification Process N ₂ O	WW.7, WW.13	Population served	44,895	40
Effluent Discharge Fugitive N ₂ O	WW.12, WW.13	Nitrogen load (kilograms of nitrogen per day)	336	61

Waste

GHG emissions associated with the waste sector result from the decomposition of waste at a landfill and from waste processing equipment. GHG emissions from waste decomposition were calculated using Community Protocol Method SW.4, using the default emission factor for mixed waste and assuming

⁶ East Bay Municipal Utility District. 2020. EBMUD Urban Water Management Plan 2020. Appendix J; Table J-1.

⁷ A small portion of the City of Pinole served by West County Wastewater District. Wastewater emissions for this portion of the population were not captured as part of the inventory update because they were considered negligible.

⁸ It was assumed that fraction of CH₄ in the biogas was approximately equal to 60%, based on specifications for the anaerobic digesters.



operation of a landfill gas collection system.⁹ GHG emissions from waste processing equipment were estimated using Community Protocol Method SW.5. Activity data for community-generated waste were provided directly by West Contra Costa Integrated Waste Management Authority, on behalf of Republic Services, the waste service provider in Pinole. The GHG emissions calculations for waste are shown in Table 5.

Table 5 2017 Waste GHG Emissions Calculations

Sector	Community Protocol Method	Activity Data Input	Activity Data (wet short ton)	GHG Emissions (MT CO ₂ e)
Landfill Decomposition	SW.4	Community-generated waste	8,367	3,163
Process Emissions	SW.5			137

Transportation: Off-road

Off-road activity data, measured in gallons of fuel consumed by fuel type, were updated using the recently released OFFROAD2021 emissions database, per CARB recommendations.¹⁰ OFFROAD2021 provides fuel usage results from off-road equipment operation at the county level; fuel usage results were then apportioned to Pinole using demographics data calculated from Plan Bay Area 2040 and Plan Bay Area 2050.¹¹ The updated analysis includes the same vehicle classes used in the 2017 Inventory, using the newer model of vehicle classes for which there is updated data. Emission factors for diesel, gasoline, and natural gas usage in off-road vehicles were obtained from the EPA Emission Factors for Greenhouse Gas Inventories report.¹² Off-road GHG emissions calculation details are shown in Table 6.

Table 6 2017 Off-road GHG Emissions Calculations

Fuel Type	Activity Data (gallons)	Emission Factor (MT CO ₂ e/gallon)	GHG Emissions (MT CO ₂ e)
Diesel	302,801	0.01021	3,140
Gasoline	210,947	0.00878	1,877
Natural Gas	38,014	0.00568	219

Transportation: Passenger and Commercial VMT

Transportation emissions from passenger and commercial vehicles were updated to leverage the latest on-road transportation emissions data from CARB's EMFAC2021 model.¹³ Passenger and commercial

⁹ West Contra Costa Integrated Waste Management Authority communicated that solid waste in Pinole is hauled to Keller Canyon Landfill and West Contra Costa SLF, which both operate landfill gas collection systems, according to the LMOP Database accessed at: <https://www.epa.gov/system/files/documents/2021-09/opprjlmopdata-detailed.xlsx>.

¹⁰ Updates to CARB's OFFROAD model in 2021 include more accurate accounting of fuel usage in each off-road category, especially in the agricultural equipment sector.

¹¹ Accessed at: <http://projections.planbayarea.org/>.

¹² Environmental Protection Agency. April 2021. Emission Factors for Greenhouse Gas Inventories.

¹³ Output from the CARB 2021 Emission Factor (EMFAC) model version 1.0.1 was used to facilitate analysis of VMT data (accessed at: <https://arb.ca.gov/emfac/emissions-inventory/d7e33b22a7ef163d2dc9fd91182391d41cb025f9>). EMFAC2021 is the primary data source for estimating project- and plan-level mobile source emissions in California. County-specific emissions factors, in units of MT CO₂e/mile, for buses, passenger, and commercial vehicles were calculated based on EMFAC2021 model output for the year 2017. Percent electric vehicle (EV) share and electricity used per EV-mile were also calculated at the county level for each year based on EMFAC2021 model output to quantify EV mileage and EV electricity usage for Pinole is based on the VMT data. Each variable calculated from EMFAC2021 output was aggregated over all



VMT data were originally obtained from Metropolitan Transportation Commission (MTC). However, MTC data does not include VMT from motorcycles, motor homes, or buses. VMT data from MTC were, therefore, adjusted using data from EFMAC2021 to include the missing VMT sources. VMT data were further disaggregated to electric VMT (EVMT). EVMT can be converted to electricity usage (in kWh) by applying an estimated energy per mile factor from EMFAC2021. Activity data were then converted to GHG emissions using emission factors from EMFAC2021. These calculations are shown in detail in Table 7 and Table 8.

To avoid double counting electricity emissions contained in the transportation sector and in the electricity sector, residential and nonresidential electricity activity data were adjusted by subtracting the electricity used for vehicle charging. These changes are reflected in the next section.

vehicle categories (i.e., LDA, LDT1, LDT2, MCY, MDV, MH for passenger vehicles; LHDT1, LHDT2, HHDT, MHDT for commercial vehicles; OBUS, SBUS, UBUS for buses) and fuel types (i.e., gasoline, diesel, natural gas, electric vehicle, and plug-in) using a VMT-weighted average.



Table 7 2017 On-road VMT Calculations

Sector	MTC Activity Data (miles/day)	EMFAC Adjustment Description	EMFAC Adjusted Activity Data (miles/day)	Annual VMT (miles) ¹	EMFAC EV share	Annual EVMT (miles)	EMFAC Energy per Mile (kWh/mile)	Annual EVMT (kWh)
On-road Passenger VMT	146,501	Augment MTC data to include motorcycle VMT. Per EMFAC2021, 0.45% of passenger VMT is from motorcycles.	147,169	51,067,556	1.03%	525,996	0.362	190,196
On-road Commercial VMT	23,932	Augment MTC data to include motor home VMT. Per EMFAC2021, 1.59% of commercial VMT is from motor homes.	24,318	8,438,221	0.00%	0	N/A	0
On-road Bus VMT	N/A	Augment MTC data to include bus VMT. Per EMFAC 2021, bus VMT is equal to 3.67% of commercial VMT.	892	309,457	0.12%	371	1.743	647

1. Daily VMT is converted to annual VMT using a standard conversion factor of 347 days per year, which accounts for reduced VMT on some days of the year. See CARB's Review of Metropolitan Transportation Commission's Draft 2021 RTP/SCS.¹⁴

Table 8 2017 On-road GHG Emissions Calculations

Sector	Activity Data	Emission Factor	GHG Emissions (MT CO ₂ e)
On-road Passenger VMT	51,067,556 miles	0.000370 MT CO ₂ e/mile	18,895
On-road Commercial VMT	8,438,221 miles	0.001288 MT CO ₂ e/mile	10,868
On-road Bus VMT	309,457 miles	0.001530 MT CO ₂ e/mile	473
On-road Passenger EVMT	190,196 kWh	0.000096 MT CO ₂ e/kWh	18
On-road Commercial EVMT	0 kWh	0.000096 MT CO ₂ e/kWh	0
On-road Bus EVMT	647 kWh	0.000096 MT CO ₂ e/kWh	0.06

¹⁴ California Air Resources Board. July 2021. CARB Review of Metropolitan Transportation Commission's Draft 2021 RTP/SCS Senate Bill 375 Greenhouse Gas Emissions Technical Quantification Methodology. Accessed at: https://ww2.arb.ca.gov/sites/default/files/2021-08/2021.07.16%20CARB%20MTC%202021%20SCS%20TM%20Response%20Letter_signed_ADA.pdf



Energy: Residential and Nonresidential Electricity

As mentioned above, residential and nonresidential electricity activity data and GHG emissions were updated to accurately account for the electricity used for electric vehicle charging and to avoid double-counting. Specifically, on-road passenger EVMT electricity was subtracted from the residential electricity activity data,¹⁵ while bus EVMT electricity was subtracted from the nonresidential electricity activity data. These updates are shown in Table 9.

Table 9 2017 Residential and Nonresidential Electricity Adjustment

Sector	Original Activity Data (kWh)	Annual EVMT (kWh)	Adjusted Activity Data (kWh)	Emission Factor (MT CO ₂ e/kWh)	Adjusted GHG Emissions (MT CO ₂ e)
Residential Electricity (PG&E)	37,413,247 kWh	190,196	37,223,051	0.000096	3,587
Nonresidential Electricity (PG&E)	32,505,137 kWh	647	32,504,490	0.000096	3,132

Energy: Direct Access Electricity

Electricity emissions were updated to include estimated direct access electricity. While direct access electricity data was not available from PG&E in 2017 due to the 15/15 rule, direct access electricity data from 2018 were used as a proxy for 2017 data and added to the Updated Inventory. Direct access electricity data for 2018 were calculated based on data provided by PG&E and MCE Clean Energy, as shown in Table 10.¹⁶

Table 10 2018 Direct Access Electricity Calculation

Electricity Provider	Electricity Sector	Activity Data (kWh)
PG&E	Direct Access – Including MCE Electricity	52,455,782
MCE	Residential 60% Renewable	22,838,750
	Residential 100% Renewable	101,218
	Nonresidential 60% Renewable	18,839,092
	Nonresidential 100% Renewable	83,493
Non-MCE Direct Access (PG&E Direct Access minus MCE Electricity)		10,593,229

GHG emissions from direct access electricity for 2017 were then calculated by multiplying the 2018 proxy activity data by the 2017 direct access electricity emission factor from eGRID (Table 11).¹⁷

Table 11 2017 Direct Access GHG Emissions Calculations

Electricity Sector	Activity Data (kWh)	Emission Factor (MT CO ₂ e/kWh)	GHG Emissions (MT CO ₂ e)
Direct Access	10,593,229	0.0002404	2,546

¹⁵ It was assumed that the majority of electric vehicle charging occurs at home.

¹⁶ Starting in April 2018, MCE Clean Energy began procuring and providing electricity to the City of Pinole. MCE Clean Energy is a community choice aggregation (CCA).

¹⁷ Accessed at: <https://www.epa.gov/egrid>



Energy & Transportation: Electricity T&D Losses

Electricity T&D losses arise from electricity lost during delivery to the buildings and associated end-uses in the City of Pinole. Electricity T&D losses occur in the electricity delivery system and are therefore upstream of the delivery endpoints located in Pinole but are still associated with energy usage in the City of Pinole. GHG emissions from electricity T&D losses are calculated using an electricity T&D loss factor of 4.23 percent, obtained from eGRID.¹⁸ GHG emissions from electricity T&D losses were calculated separately for each electricity stream in the energy sector (residential, nonresidential, and direct access) using the associated emission factor. Electricity T&D GHG emission calculation details are shown in Table 12.

Table 12 Electricity T&D Loss GHG Emissions Calculations

Sector	Activity Data (kWh)	T&D Losses (kWh)	Emission Factor (MT CO ₂ e/kWh)	GHG Emissions (MT CO ₂ e)
Residential Electricity	37,223,051	1,574,535	0.000096	152
Nonresidential Electricity	32,504,490	1,374,940	0.000096	132
Direct Access Electricity	10,593,229	448,094	0.000240	108

Energy: Natural Gas Methane Leaks

Natural gas methane leaks arise from natural gas lost during delivery to the buildings and associated end-uses in the City of Pinole. Natural gas methane leaks occur in the pipeline delivery system and are therefore upstream of the delivery endpoints located in Pinole but are still associated with energy usage in the City of Pinole. GHG emissions from natural gas methane leaks are calculated using a methane leak factor of 2.3 percent.¹⁹ GHG emissions from natural gas methane leaks were calculated separately for the residential and nonresidential natural gas streams in the energy sector, using a natural gas methane leak emission factor. Electricity T&D GHG emission calculation details are shown in Table 13.

¹⁸ Accessed at: <https://www.epa.gov/egrid>

¹⁹ Alvarez, Ramón et al. (2018). Assessment of methane emissions from the U.S. oil and gas supply chain. Science. 361. <https://www.science.org/doi/abs/10.1126/science.aar7204>.

Table 13 Natural Gas Methane Leaks GHG Emissions Calculations

Natural Gas Sector	Activity Data (therms)	Methane Leaks (therms)	Emission Factor (MT CO ₂ e/therm) ¹	GHG Emissions (MT CO ₂ e)
Residential Natural Gas	2,777,511	63,883	0.053067	3,390
Nonresidential Natural Gas	810,175	18,634	0.053067	989

1. Calculated using the equation: $2.85 \frac{\text{cubic meters}}{\text{therm}} * 95\% \text{ methane content} * 0.7 \frac{\text{kg}}{\text{cubic meter}} * 28 \frac{\text{CO}_2\text{e}}{\text{CH}_4} * 0.001 \frac{\text{MT}}{\text{kg}}$

Updated GHG Emissions Inventory Summary

The results for all GHG emissions sectors for the City of Pinole's Updated Inventory are summarized in Figure 1 and shown in detail in Table 14.

Figure 1 Updated Inventory GHG Emissions by Sector

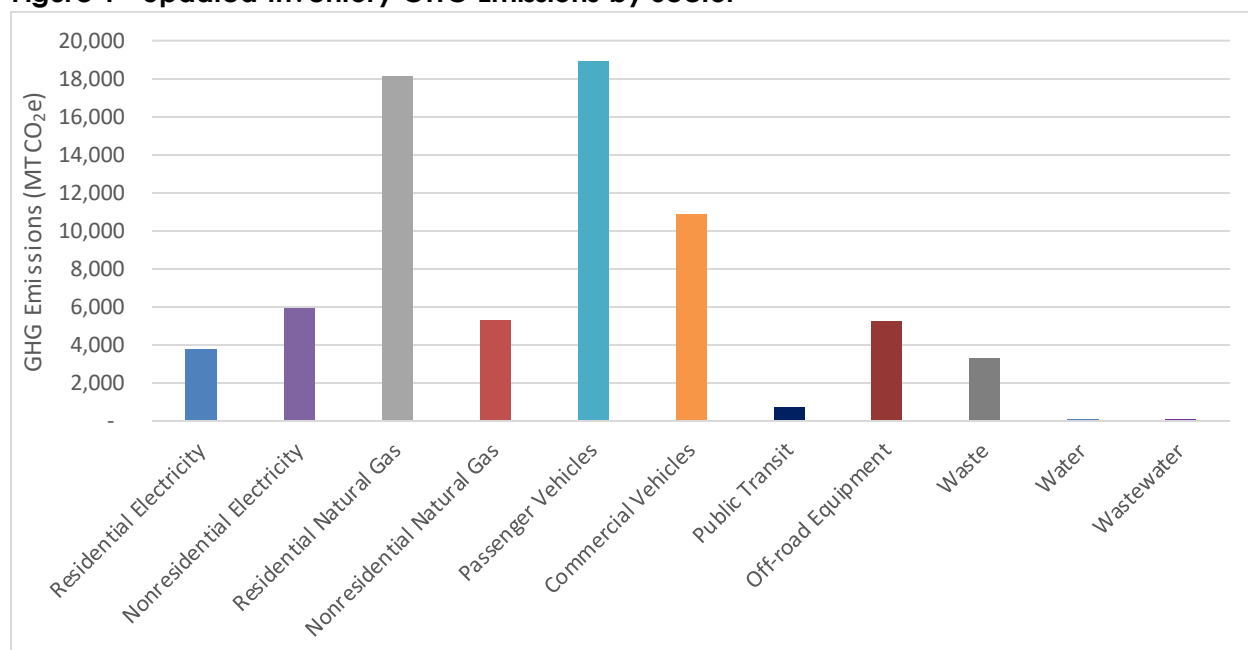




Table 14 Updated 2017 GHG Emissions Inventory

GHG Emissions Sector	GHG Emissions Subsector	Activity Data	Emission Factor	GHG Emissions (MT CO ₂ e)
Energy	Residential Electricity	37,223,051 kWh	0.000096 MT CO ₂ e/kWh	3,587
	Residential Electricity T&D	1,574,535 kWh	0.000096 MT CO ₂ e/kWh	152
	Nonresidential Electricity	32,504,490 kWh	0.000096 MT CO ₂ e/kWh	3,132
	Nonresidential Electricity T&D	1,374,940 kWh	0.000096 MT CO ₂ e/kWh	132
	Direct Access Electricity	10,593,229 kWh	0.000240 MT CO ₂ e/kWh	2,546
	Direct Access Electricity T&D	448,094 kWh	0.000240 MT CO ₂ e/kWh	108
	Residential Natural Gas	2,777,511 therms	0.00531 MT CO ₂ e/therm	14,750
	Residential Natural Gas Leaks	63,883 therms	0.053067 MT CO ₂ e/therm	3,390
	Nonresidential Natural Gas	810,175 therms	0.00531 MT CO ₂ e/therm	4,302
	Nonresidential Natural Gas Leaks	18,634 therms	0.053067 MT CO ₂ e/therm	989
Transportation	Passenger VMT	51,067,556 miles	0.000370 MT CO ₂ e/mile	18,895
	Commercial VMT	8,438,221 miles	0.001288 MT CO ₂ e/mile	10,868
	Bus VMT	309,457 miles	0.001530 MT CO ₂ e/mile	473
	Passenger EVMT	190,196 kWh	0.000096 MT CO ₂ e/kWh	18
	Commercial EVMT	0 kWh	0.000096 MT CO ₂ e/kWh	0
	Bus EVMT	647 kWh	0.000096 MT CO ₂ e/kWh	0.06
	BART	2,455,392 miles	0.000093 MT CO ₂ e/mile	228
	Off-road Diesel	357,578 gallons	MT CO ₂ e/gallon	3,140
	Off-road Gasoline	206,631 gallons	MT CO ₂ e/gallon	1,877
	Off-road Natural Gas	45,523 gallons	MT CO ₂ e/gallon	219
Waste	Landfill CH ₄	8,367 tons	N/A	3,163
	Process Emissions		N/A	137
Water	Water Conveyance, Treatment, and Distribution	57,398 kWh	0.000096	63
Wastewater	Digester Gas CH ₄	60,725 std cubic ft/day	N/A	0.59
	Digester Gas N ₂ O		N/A	1.10
	Denitrification Process N ₂ O	44,895 population served	N/A	40
	Effluent Discharge Fugitive N ₂ O	336 kg N/day	N/A	61
Total				72,273



The Updated Inventory provides the City with accurate baseline GHG emissions estimates that follow the Community Protocol and include, as mentioned previously, the following modifications for improved GHG accounting:

- Addition of GHG emissions from the waste, water, wastewater, natural gas methane leaks, and electricity T&D loss sectors, which were excluded from the 2017 Inventory.
- Use of CARB's updated OFFROAD2021 model in place of the older off-road model, for updated off-road fuel estimates and better accounting of off-road equipment usage.
- Use of CARB's updated EMFAC2021 model in place of the older EMFAC2017 model, for updated on-road transportation sector emission factors and additional data to better account for electric vehicle usage.
- Addition of estimated direct access electricity for 2017, using proxy data from 2018, which were excluded from the 2017 Inventory.

The Updated Inventory resulted in a 21.9 percent increase in GHG emissions attributed to the City of Pinole in 2017, primarily due to the addition of the waste, water, wastewater, electricity T&D loss, and natural gas methane leakage sectors to the inventory. The changes from the original 2017 Inventory and the Updated Inventory are shown in detail in Table 15.



Table 15 Original 2017 Inventory versus Updated Inventory

GHG Emissions Sector	GHG Emissions Subsector	GHG Emissions (MT CO ₂ e)		Percent Change (%)	Summary of Reason for Change
		Inventory Update	Original 2017 Inventory		
Energy	Residential Electricity	3,738	3,605	3.6%	Adjusted to exclude GHG emissions from passenger EV charging and include GHG emissions from T&D losses
	Nonresidential Electricity	5,918	3,132	88.9%	Adjusted to include GHG emissions from direct access electricity and T&D losses
	Residential Natural Gas	18,140	14,750	23.0%	Adjusted to include GHG emissions from methane leaks
	Nonresidential Natural Gas	5,291	4,302	23.0%	Adjusted to include GHG emissions from methane leaks
Transportation	Passenger Vehicles	18,913	17,593	7.5%	Adjusted to use updated emission factors and include GHG emissions from passenger EV charging and T&D losses.
	Commercial Vehicles	10,868	10,862	0.1%	Adjusted to use updated emission factors and exclude GHG emissions from buses.
	Public Transit (buses and BART)	701	228	207.9%	Adjusted to include GHG emissions from buses and EV bus charging and T&D losses.
	Off-road Equipment	5,236	4,753	10.2%	Adjusted to use updated fuel usage data and emission factors.
Waste	Waste	3,300	N/A	N/A	Sector originally excluded from inventory and updated to be included.
Water and Wastewater	Water	63	N/A	N/A	Sector originally excluded from inventory and updated to be included.
	Wastewater	103	N/A	N/A	
Total		72,273	59,226	18.1%	N/A



The Updated Inventory is intended to be used for further climate action planning efforts in the City of Pinole, including the development of GHG emissions targets, GHG emissions reduction measures, and as a baseline for comparing future GHG emissions inventories. Since 2017, GHG emissions in the City of Pinole have likely declined due to renewable energy procurement from MCE and increased efficiency in the energy and transportation sectors. Future emissions can be estimated in a GHG emissions forecast developed from the Updated Inventory.

Sincerely,

Rincon Consultants, Inc.

A handwritten signature in blue ink, appearing to read "Erik Feldman", written over a horizontal line.

Erik Feldman, MS, LEED AP
Principal

A handwritten signature in blue ink, appearing to read "Hannah Mize", written over a horizontal line.

Hannah Mize
Sustainability Project Manager



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March 14, 2022
Project No: 21-11885

Lilly Whalen
Community Development Director
City of Pinole
2131 Pear Street
Pinole, California 94564

Subject: City of Pinole 2021 Municipal Greenhouse Gas Emissions Inventory

Dear Ms. Whalen:

Rincon Consultants Inc. (Rincon) has prepared this 2021 Municipal Greenhouse Gas (GHG) Emissions Inventory (Municipal GHG Inventory) for the City of Pinole (the City) for the 2021 calendar year as part of a baseline assessment to be used in GHG reduction planning efforts. The Municipal GHG emissions inventory is based on the most recent full year of available activity data (2021) and calculates the GHG emissions associated with the buildings and facilities, streetlights and traffic signals, vehicle fleet, employee commute, water consumption, wastewater emissions and solid waste generation under the City's operational control. The GHG inventory was completed using the *Local Government Operations Protocol*¹ (LGOP) developed by Local Governments for Sustainability (ICLEI), California Air Resources Board (CARB), California Climate Action Registry, and The Climate Registry (TCR), and includes the calculation of the municipal GHG emissions inventory which can be attributed directly to Pinole's operations in 2021.

California Regulatory Setting

California considers GHG emissions and the impacts of climate change to be a serious threat to public health, the environment, economic well-being, and natural resources of the state, and has taken an aggressive stance to mitigate the impact on climate change through the adoption of legislation and policies, the most relevant of which are summarized below.

- **Executive Order (EO) S-3-05**, signed by the Governor in 2005, establishes statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows: by 2020, reduce GHG emissions to 1990 levels and by 2050, reduce GHG emissions to 80% below 1990 levels. The 2050 target was accelerated by the 2045 carbon neutral target in EO B-55-18, as discussed below.²
- **Assembly Bill (AB) 32**, known as the *Global Warming Solutions Act of 2006*, requires that California's GHG emissions be reduced to 1990 levels by the year 2020 (approximately a 15% reduction from 2005 to 2008 levels). The AB 32 Climate Change Scoping Plan (2008) identifies mandatory and voluntary measures to achieve the statewide 2020 emissions goal and encourages local

¹ ICLEI. May 2010. Local Government Operations Protocol for the quantification and reporting of greenhouse gas emissions inventories.

² Executive Orders are binding only unto state agencies. Accordingly, Executive Order S-3-05 will guide state agencies' efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions.



governments to reduce municipal and community GHG emissions proportionate with state goals.³ This state achieved this goal in 2016, reducing GHG emissions below 1990 levels three years before the target.⁴

- **Senate Bill (SB) 32**, signed by the Governor in 2016, establishes a statewide mid-term GHG reduction goal of 40% below 1990 levels by 2030. The California Air Resources Board (CARB) formally adopted an updated Climate Change Scoping Plan in December 2017, establishing a roadmap to achieve the 2030 goal and providing guidance to achieve substantial progress toward California's long-term goals.
- **Executive Order B-55-18**, signed by the Governor in 2018, expanded upon EO S-3-05 by creating a statewide GHG goal of carbon neutrality by 2045. EO B-55-18 identifies CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal.

California has encouraged local governments and agencies to develop strategies to reduce their contribution to the state's total GHG emissions proportional to the levels established by state legislation, by demonstrating their "fair share" of GHG emissions reduction. The GHG emissions inventory presented here is the first step towards evaluating how the City can demonstrate their commitment to mitigating their contribution towards climate change.

Greenhouse Gases

The Municipal GHG Emissions Inventory was developed based on methodologies outlined in ICLEI's LGOP. The LGOP states that local governments should assess emissions of all six internationally recognized GHGs. These gases are outlined in Table 1, which also includes their sources and global warming potential (GWP).⁵ This inventory incorporates the latest 100-year GWP values published in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5).⁶ The GWP refers to the ability of each gas to trap heat in the atmosphere. For example, one pound of methane has approximately 28 times more heat capturing potential than one pound of carbon dioxide. This report focuses on the three GHGs most relevant to local government policymaking: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). These gases comprise a large majority of GHG emissions at the municipal and community level. The other gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the state level and therefore, have been omitted from this inventory. GHG emissions are reported in metric tons of carbon dioxide equivalent (MT CO₂e) units. When dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes.

³ Specifically, the AB 32 Scoping Plan states that CARB, "encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce GHG emissions by approximately 15% from current levels by 2020" (p. 27). "Current" as it pertains to the AB 32 Scoping Plan is commonly understood as between 2005 and 2008.

⁴ How California is working to reduce greenhouse gas emissions. March 2020. Clear Center, UC Davis. Accessed at <https://clear.ucdavis.edu/explainers/how-california-working-reduce-greenhouse-gas-emissions>. Accessed March 1, 2022.

⁵ The IPCC 5th Assessment report outlines different GWP's that CARB uses in their inventory reporting https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf. Accessed March 14, 2022

⁶ International Organization for Standardization (ISO) published ISO 14064-1 in 2006 (revised 2018) to provide an international standard for the quantification and reporting of GHG emissions.



Table 1 Summary of Greenhouse Gas Emission

Greenhouse Gas	Formula	Primary Source(s)	GWP (CO ₂ e)
Carbon Dioxide	CO ₂	Fuel combustion	1
Methane	CH ₄	Fuel combustion, anaerobic decomposition of organic waste (landfills, wastewater treatment plants), fuel handling	28
Nitrous Oxide	N ₂ O	Combustion and wastewater treatment	265
Hydrofluorocarbons	Various	Leaking refrigerants and fire suppressants	4 – 12,400
Perfluorocarbons	Various	Aluminum production, semiconductor manufacturing, HVAC equipment manufacturing	6,630 – 11,100
Sulfur Hexafluoride	SF ₆	Transmission and distribution of power	23,500

Source: Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report AR5, Chapter 8 Anthropogenic and Natural Radiative Forcing. 2014. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf. Accessed March 1, 2022.
GWP: Global Warming Potential

2021 Municipal GHG Inventory Overview

The 2021 Municipal GHG Emissions Inventory includes all emissions occurring within the City of Pinole's direct jurisdictional authority (i.e., sources of emissions resulting from facilities that the City owns and/or operates). The municipal inventory allows the City to track its GHG emissions resulting from the municipally owned facilities, vehicles, and equipment over which it is able to exert control with GHG reduction policies and ultimately lead by example.

The City of Pinole operates and maintains multiple buildings, and facilities across the City. The City's primary GHG emissions originate from building heating and cooling, operational energy use, fossil fuels burned in vehicles, streetlights and traffic signals, water consumption, wastewater generation, and waste generation. Fleet data includes employee vehicles and agency-owned vehicles and rentals. Water consumption data includes water service provided to the City's facilities. Wastewater generation data includes the emissions generated from treating water at the Pinole-Hercules Water Pollution Control Plant, which is located in Pinole. Because the City owns and operates the Wastewater facility it is considered a direct Scope 1 source of emissions under the LGOP.⁷ Solid waste generation data include tonnage generated by the City's facilities across the 2021 calendar year.

The reporting and calculation of GHG emissions are consistent with the recommendations of LGOP and ICLEI. The operational inventory reports GHG emissions by their source, which includes buildings and facilities, vehicle fleet, water delivery facilities, employee commute, water consumption, fugitive wastewater emissions, and solid waste generation. The calculation of GHG emissions uses the best available data and guidance of the LGOP methodologies.

The results of GHG emission calculations are presented by emissions *scope*, relating to the degree of control the City has over emissions sources, and the specific sources that the emissions are associated with. Emissions sources are categorized as direct (Scope 1) or indirect (Scope 2 or Scope 3), in

⁷ The wastewater facility is owned and operated by the city of Pinole and serves the nearby city of Hercules in addition to Pinole. Because the municipal inventory is a subset of the community inventory there is no double counting despite the qualification of wastewater emissions as Scope 1 emissions for this municipal inventory.



accordance with the World Resources Institute and the World Business Council for Sustainable Development's Greenhouse Gas Protocol Corporate Standard, which are summarized below:

- **Scope 1:** Direct GHG emissions from sources within a local government's operations that it owns and/or controls. This includes stationary combustion to produce electricity, steam, heat, and power equipment; mobile combustion of fuels; process emissions from physical or chemical processing; fugitive emissions that result from production, processing, transmission, storage, and use of fuels; and other sources.
- **Scope 2:** Indirect GHG emissions associated with the consumption of electricity, steam, heating, or cooling that are purchased from a utility provider that also provides energy to other jurisdictions and/or is located outside City boundaries.
- **Scope 3:** All other indirect GHG emissions not covered in Scope 2, such as emissions resulting from the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the City (e.g., employee commuting and business travel, outsourced activities, waste disposal, etc.).

2021 Municipal GHG Inventory Results

A discussion of the emissions by source follows for the seven primary emission sources of: buildings and facilities, streetlights and traffic signals, vehicle fleet, employee commute, water consumption, wastewater emissions, and solid waste generation.

Table 2 2021 Municipal GHG Emission Inventory Results (MT CO₂e)

Sector	Scope 1	Scope 2	Scope 3	Total
Buildings and Facilities	337.0	150.9	N/A	487.9
Streetlights and Traffic Signals	N/A	2.8	N/A	2.8
Vehicle Fleet	346.6	N/A	N/A	346.6
Employee Commute	N/A	N/A	298.4	298.4
Water Consumption	N/A	N/A	1.4	1.4
Wastewater Emissions	221.1	N/A	N/A	221.1
Solid Waste Generation	N/A	N/A	356.3	356.3
Business Travel	N/A	N/A	490.5	490.5
Cumulative Emissions	904.8	153.7	1,146.6	2,205.0

Notes: All values presented are in units of metric tons of carbon dioxide equivalent (MT CO₂e); N/A = Not applicable; Values may not add due to rounding

Buildings and Other Facilities

Buildings and facilities generate Scope 1 and Scope 2 emissions that relate to the combustion of natural gas and propane (Scope 1) and the use of electricity (Scope 2) in the City's facilities.

As of 2021, the City sources its electricity from one provider, Marin Clean Energy (MCE) and purchases electricity at the Light Green level, sourcing 60% of its electricity from carbon-free sources. The City is provided natural gas by Pacific Gas and Electric (PG&E), which is used for heating and cooling buildings and facilities. Activity data was provided directly through MCE and PG&E invoices while emissions



factors were provided for MCE electricity through their website and the natural gas emissions factor was gathered from the PG&E data delivery form. The GHG emissions associated with buildings and other facilities sector sources in the Municipal GHG Emissions Inventory are provided in Table 3.

Table 3 Buildings and Other Facilities Sector Operational GHG Emissions

GHG Emission Source	Activity Data	Emissions Factor	Emissions (MT CO ₂ e)	Emission Source Scope
Natural Gas Consumption	63,467 Therms	0.0053105	337	Scope 1
Electricity Consumption	4,319,353 kWh	0.0000349	150.9	Scope 2
Cumulative Sector Emissions			487.9	

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Vehicle Fleet

Vehicle fleet emissions include Scope 1 sources that relate to the combustion of fossil fuels in the City's fleet vehicles, equipment rentals, and personal use of vehicles for work. Fleet vehicles include light and medium-duty vehicles, trucks, and off-road equipment. This sector also includes emissions from the use of personal vehicles for work. The employee commute sector accounts for emissions generated by City employees' trips to and from work and is treated as separate from the use of personal vehicles for work trips and is discussed further below. The City tracks data for vehicle fleet including diesel and gasoline use for 2021 in gallons. Using 2021 United States Environmental Protection Agency (USEPA) emissions factors, the total emissions were calculated for each fuel type. The GHG emissions associated with vehicle fleet sector sources in the Municipal GHG Emissions Inventory are provided in Table 4.

Table 4 Vehicle Fleet Sector Operational GHG Emissions

GHG Emission Source	Activity Data (Gallons)	Emissions Factor	Emissions (MT CO ₂ e)	Emission Source Scope
Diesel	10,789	0.01024268	110.5	Scope 1
Gasoline	26,795	0.00881184	236.1	Scope 1
Cumulative Sector Emissions			346.6	Scope 1

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Employee Commute

Emissions from employee commute include Scope 3 GHG emissions sources that relate to the combustion of fossil fuels generated by the City of Pinole's employees' vehicles. The employee commute activity data was gathered through an employee survey while the emissions factors used were pulled by vehicle type from CARB's EMFAC 2021 analysis.⁸ The employee commute sector accounts for emissions generated by City employees' trips to and from work and is treated as separate from the use of personal vehicles for work trips described above under vehicle fleet sector emissions. The GHG emissions associated with the employee commute sector are found in Table 5.

⁸ EMFAC is used to calculate offroad and on road emissions and also provides data to calculate emissions factors by fuel type and vehicle class. <https://arb.ca.gov/emfac/>. Accessed March 14, 2021.



Table 5 Employee Commute GHG Emissions

GHG Emission Source	Activity Data (VMT)	Emissions Factor	Emissions (MT CO ₂ e)	Emission Source Scope
Employee Commute	10,789	0.01024268	298.4	Scope 3
Cumulative Sector Emissions			298.4	Scope 3

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Water Consumption

Water consumption generates Scope 3 emissions from the electricity used to deliver water to the City facilities, as well as the energy used to treat and convey the water prior to delivery. The City owns and operates several buildings and facilities receiving water service from East Bay Municipal Utilities District (EBMUD) exclusively. The water consumption metered data was collected from monthly invoices and used to calculate emissions by pulling emissions factors from EPA eGRID, IPCC Fifth Assessment Report, and PG&E data delivery forms. The 2021 municipal water consumption and GHG emissions are provided in Table 6.

Table 6 Water Consumption GHG Emissions

Activity Data (AF)	Energy Intensity (kWh/AF)	Electricity (kWh)	Electricity Emission Factor (MT CO ₂ e/kWh)	GHG Emissions (MT CO ₂ e)
38.55	379.6	14,636.9	0.000094	1.38

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Wastewater Emissions

The wastewater treatment plant activity produces emissions through every stage of the process and falls under Scope 1 as it is a City owned and operated facility. Data was provided by the Pinole-Hercules Water Pollution Control Plant in the form of effluent nitrogen and anaerobic digester gas. Emissions factors used with the provided data to calculate emissions were pulled from the ICLEI community protocols for wastewater emissions calculations. The total stationary, process, and fugitive wastewater emissions generated by the City can be found in Table 7.⁹

⁹ See ICLEI Community Protocol Methods WW.1.a, WW.2.a, WW.12, and WW.13 for all default inputs including emissions factors used to calculate wastewater emissions.



Table 7 2021 Wastewater GHG Emissions

Sector	Community Protocol Method	Activity Data Input	Activity Data	GHG Emissions (MT CO ₂ e)
Digester Gas CH ₄	WW.1.a, WW.13	Digester gas (cubic feet/day)	55,323.29	1.1
Digester Gas N ₂ O	WW.2.a, WW.13			2.1
Denitrification Process N ₂ O	WW.7, WW.13	Population served	44,895	83.3
Effluent Discharge Fugitive N ₂ O	WW.12, WW.13	Nitrogen load (kilograms of nitrogen per day)	354.57	134.6
Cumulative Sector Emissions				221.1

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Solid Waste

GHG emissions from solid waste include Scope 3 emissions from waste generated by municipal facilities. These GHG emissions occur in the form of methane as disposed waste decays in landfills over time. The GHG emissions captured here account methane commitment for the waste generated in 2021 calculated with activity data of total tonnage and ICLEI community protocol method SW.4 and SW.5.¹⁰ The 2021 total tons of solid waste disposed of from the City of Pinole's Municipal operations and the associated emissions can be found in Table 8.

Table 8 2021 Waste GHG Emissions

Sector	Community Protocol Method	Activity Data Input	Activity Data (wet short ton)	GHG Emissions (MT CO ₂ e) ¹¹
Landfill Methane Emissions	SW.4	Municipal-generated waste	915.98	346.3
Landfill Process Emissions	SW.5	Municipal-generated waste	915.98	10.1
Cumulative Sector Emissions				356.3

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Business Travel

Business travel results in Scope 3 emissions from passenger and airplane associated business travel. The business travel sources account for emissions generated by City employees' travel that is related to work. Activity data was provided by the City and emissions factors used in calculations were pulled from

¹⁰ Because emissions from solid waste are attributed to municipal solid waste produced by municipal facilities (Scope 3 emissions as a subset of community waste emissions), ICLEI Community Protocol Methods SW.4 and SW.5 were deemed most appropriate to use in this case.

¹¹ See ICLEI Community Protocol Methods SW.4, and SW.5 for all default inputs including emissions factors used to calculate solid waste emissions.



CARB's 2021 EMFAC analysis and the BlueSkyModel.¹² The GHG emissions associated with business travel sector sources are found below in Table 9.

Table 9 2021 Business Travel GHG Emissions Calculations

GHG Emission Source	Activity Data (Mileage)	Emissions Factor	Emissions (MT CO ₂ e)	Emission Source Scope
Passenger Car	3,865	0.000305274	1.2	Scope 3
Airplane	20,238	0.024176721	489.3	Scope 3
Cumulative Sector Emissions			490.5	Scope 3

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent; Values may not add due to rounding

Conclusion

Given the progress of the City of Pinole's baseline assessment, Rincon believes the City is well-positioned to advance towards the development of a Climate Action Plan (CAP), establishing a GHG emissions forecast and reduction plan to achieve net carbon neutrality by 2045 in accordance with state legislated targets. The data within this GHG Municipal inventory is a subsector of the community inventory that can be used to develop specific measures for the city of Pinole in a CAP. With a CAP, the City will be able to chart a transparent pathway towards GHG reduction in line with the state goals. GHG reduction strategies can be identified through a comprehensive assessment of existing local and regional policies, programs, and actions and by assessing any gaps and identifying additional opportunities. Please feel free to contact us if you have any questions, comments, or concerns regarding the material provided, such as the excel workbook titled "Pinole Municipal Inventory" and provided via email with this submittal.

Sincerely,
Rincon Consultants, Inc.

Hannah Mize
Sustainability Planner

Erik Feldman, MS, LEED-AP
Principal

¹² The BlueSkyModel was used to determine the emissions factor of airplane business travel.
[https://blueskymodel.org/air-mile#:~:text=On%20average%2C%20a%20plane%20produces,\(CO2\)%20per%20mile.](https://blueskymodel.org/air-mile#:~:text=On%20average%2C%20a%20plane%20produces,(CO2)%20per%20mile.)
Accessed March 14, 2022.



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Updated: January 19, 2024

Project No: 21-11885

Lilly Whalen
Community Development Director
City of Pinole
2131 Pear Street
Pinole, California 94564

**Subject: City of Pinole Greenhouse Gas Emissions Forecasts and Provisional Target
Memorandum**

Dear Ms. Whalen,

Rincon Consultants, Inc. (Rincon) has calculated the greenhouse gas (GHG) emissions forecast and provisional GHG reduction targets based on the 2017 GHG emission inventory completed for the City of Pinole by East Bay Energy Watch (EBEW) and updated by Rincon as described in the City of Pinole 2017 Community Greenhouse Gas Emissions Inventory Review and Reconciliation Memorandum (updated January 3, 2024). The 2017 GHG emissions inventory identifies the major sources and quantities of GHG emissions produced by communitywide activities within Pinole's boundaries. The inventory was developed to provide the City with the data necessary to establish an emissions baseline, track emissions trends, identify the greatest sources of GHG emissions within their jurisdiction, and set targets for future reductions.

The GHG emissions forecast provides an estimate of how the City's GHG emissions are expected to change in the years 2025, 2030 (Senate Bill [SB] 32 horizon year), 2035, 2040, and 2045 (Assembly Bill [AB] 1279 horizon year) as a result of economic and population growth, as well as the impacts that state climate related legislation will have on these future GHG emissions. Additionally, this memorandum includes GHG emission reduction targets based on the State's goals and provides a pathway to determine the quantity of GHG emissions that Pinole needs to reduce to contribute their fair share reduction towards achieving California's long-term GHG emission reduction goals.¹ Below, please find a brief regulatory background detailing California's GHG reduction goals and strategies followed by a summary of the methodology for calculating the forecasts and the provisional GHG reduction targets.

Regulatory Background

California considers GHG emissions and the impacts of climate change to be a serious threat to public health, the environment, economic well-being, and natural resources of the State, and has taken an aggressive stance to mitigate the impact on climate change at the state-level through the adoption of legislation and policies, the most relevant of which are summarized below.

¹ California's long-term GHG emissions reduction goals were established by AB 32, SB 32, and AB 1279. Collectively, these legislative actions provide a GHG reduction trajectory for the State of reducing statewide GHG emissions to 40 percent below 1990 GHG emissions levels 2030, and carbon neutrality by 2045.

- **Executive Order S-3-05**, signed by the Governor in 2005, establishes statewide GHG emission reduction targets to achieve long-term climate stabilization as follows: by 2020, reduce GHG emissions to 1990 levels and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The 2050 target was accelerated by the 2045 carbon neutral target in Executive Order (EO) B-55-18 and AB 1279, as discussed below.²
- **Assembly Bill 32**, known as the *Global Warming Solutions Act of 2006*, requires that California’s GHG emissions be reduced to 1990 levels by the year 2020 (approximately a 15 percent reduction from 2005 to 2008 levels). The AB 32 Climate Change Scoping Plan, 2008, identifies mandatory and voluntary measures to achieve the statewide 2020 emissions goal, and encourages local governments to reduce municipal and community GHG emissions proportionate with state goals.³ AB 32 is discussed in order to provide context, however, because 2020 has passed, emissions were not forecast, and no targets were identified for this year.
- **Senate Bill 32**, signed by the Governor in 2016, requires a statewide GHG reduction of 40 percent below 1990 levels by 2030. The California Air Resources Board (CARB) formally adopted an updated Climate Change Scoping Plan in December 2017, laying the roadmap to achieve the 2030 goal and giving guidance to achieve substantial progress toward the 2050 state goal.
- **Executive Order B-55-18**, signed by the Governor in 2018, expanded upon EO S-3-05 by creating a statewide GHG goal of carbon neutrality by 2045. EO B-55-18 supersedes the targets set by EO S-3-05 for state agencies. Additionally, EO B-55-18 identifies the CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal.
- **Assembly Bill 1279**, known as the California Climate Crisis Act, signed by the governor in 2022, codifies the GHG emissions reduction goals of achieving carbon neutrality by 2045 and expands upon this goal to define carbon neutrality as reducing direct emissions 85 percent below 1990 levels and removing or sequestering the remaining emissions. The 2022 Scoping Plan Update (November 2022) provides the pathway for reaching the State’s AB 1279 goal.

GHG Emissions Forecasts

Pinole’s 2017 inventory establishes a baseline reference point. However, annual GHG emissions change over time and GHG emissions forecasts provide a way to estimate future emission levels based on both the continuation of current activities and external factors such as population and job growth. Forecasts also account for state legislative actions that are anticipated to reduce GHG emissions. Calculating the difference between the forecasted GHG emissions and the reduction target determines the gap to be closed through local policies. This section includes an estimate of the future emissions for the City of Pinole in the years 2025, 2030, 2035, 2040, and 2045 in a *business-as-usual scenario* (BAU) forecast and an *adjusted scenario* (adjusted) forecast, which are defined as follows:

- **Business-as-usual scenario**- Provides a forecast of how future GHG emissions would change if current activities continued as they did in 2017 and growth trends were to occur absent of any

² Executive Orders are binding only unto state agencies. Accordingly, Executive Order S-03-05 will guide state agencies’ efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions.

³ Specifically, the AB 32 Scoping Plan states that CARB, “encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State’s commitment to reduce GHG emissions by approximately 15 percent from current levels by 2020” (p. 27). “Current” as it pertains to the AB 32 Scoping Plan is commonly understood as between 2005 and 2008.



policies or legislation that would reduce local emissions. The BAU forecast is based on growth trends projected in population, housing, employment, and transportation activity over time, consistent with regional projections.

- *Adjusted scenario*- Provides a forecast of how currently adopted legislation would reduce GHG emissions from the *business-as-usual scenario*. The *adjusted scenario* represents the State's contribution to reducing local GHG emissions to meet state goals without any additional contribution from local policies or actions.

Business-as-usual Forecast

The BAU forecast provides an estimate of how GHG emissions would change in the forecast years if existing action continued as in 2017, absent any new regulations or actions which would reduce local GHG emissions. Future GHG emissions were calculated using projected city-specific demographic and vehicle activity data as well as emission factors utilized in the 2017 community GHG emissions inventory. On-road transportation and off-road equipment GHG emissions were separately projected using modeled activity data for the forecast years.⁴ A description of the demographic metrics used to project activity data and associated growth factors for each forecasted GHG emission source are provided in Table 1 for each for the GHG emission sources in the 2017 community GHG emissions inventory.

⁴ California Air Resources Board (CARB). Modeling Tools On-road and Off-road. 2022. <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools>. Accessed April 1, 2022



Table 1 GHG Emission Sources and Growth Factors for BAU Scenario Forecast

GHG Emissions Source	Demographic Projection Metric	Growth Factor	Value
Energy			
Residential Electricity	Households	Electricity Consumption (kWh) per Household	5,393.53
Non-residential Electricity	Employment	Electricity Consumption (kWh) per Employment	4,078.14
Direct Access Electricity	Employment	Electricity Consumption (kWh) per Employment	1,329.07
Residential Natural Gas	Households	Natural Gas Consumption (therms) per Household	402.45
Non-residential Natural Gas	Employment	Natural Gas Consumption (therms) per Employment	101.65
Transmission and Distribution Losses (T&D Losses)	N/A	T&D Losses Factor (1.28%) applied to total Electricity Consumption	N/A
Transportation			
On-Road Transportation	N/A	Annual Vehicle Miles Traveled as obtained from EMFAC2021 and MTC	N/A
Off-Road Equipment	N/A	MT CO ₂ e as obtained from CARB's OFFROAD2021 off-road transportation emissions model	N/A
BART	SP	Public Rail Vehicle Miles Traveled (VMT) per Service Population	88.86
Water			
Conveyance, Treatment, Distribution	SP	Water Supply Electricity Consumption (kWh) per Service Person	23.49
Wastewater Process and Fugitive Emissions	SP	Wastewater Process and Fugitive Emissions (MT CO ₂ e) per Service Person	0.00373
Solid Waste			
Solid Waste Disposal	SP	Solid Waste Disposed (tons) per Service Person	0.119
Notes: MT CO ₂ e = Metric tons of carbon dioxide equivalent; kWh = kilowatt-hour; VMT = vehicle miles traveled; N/A = Not Applicable; SP = Service Population – the combined total number of employees and residents in the City			

The BAU forecast relies on demographics projections from the Association of Bay Area Governments estimates of population, employment, and households using Plan Bay Area 2040 and Plan Bay Area 2050 projections.⁵ On-road transportation VMT projections utilize data obtained from the EMFAC2021 model and Metropolitan Transportation Commission (MTC) Transportation Demand Model, using the same methodology as for the 2017 inventory and explained in detail in the 2017 Community Greenhouse Gas Emissions Inventory Review and Reconciliation Memo (February 25, 2022). Off-road transportation fuel consumption was projected using CARB's OFFROAD2021 model. A summary of the demographics and projection metrics for each forecast year in the BAU forecast are provided in

⁵ Plan Bay Area 2050 accounts for Regional Housing Needs Allocation (RHNA) from the 2023-2031 Housing Element cycle. However, it only provides demographic projections by superdistrict. Plan Bay Area 2040 does not account for RHNA from the most recent cycle but does provide demographic data on a city-level. For these reasons, initial Pinole-specific estimates from Plan Bay Area 2040 were used and growth factors for Pinole's superdistrict and the region were applied from Plan Bay Area 2050 to project the initial demographic estimates through the year 2050. Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2017. Plan Bay Area Projections 2040. <http://projections.planbayarea.org/data>. Accessed March 22, 2022.

Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2021. Plan Bay Area Projections 2050. <https://www.planbayarea.org/finalplan2050>. Accessed January 17, 2024.



Table 2.

Table 2 BAU Forecast Demographic and Projection Metrics by Forecast Year

Demographics/ Sector	Data Source	2025	2030	2035	2040	2045
Population ¹	Plan Bay Area 2040 and Plan Bay Area 2050	21,718	23,110	24,592	26,168	27,845
Employment ²	Plan Bay Area 2040 and Plan Bay Area 2050	8,963	9,645	10,379	11,168	12,018
Households ²	Plan Bay Area 2040 and Plan Bay Area 2050	7,431	7,783	8,151	8,536	8,940
Service Population ³	Calculated	30,681	32,755	34,970	37,336	39,864
Passenger VMT ⁴	MTC and EMFAC2021	53,068,488	56,269,980	56,974,378	57,678,777	58,383,176
Commercial VMT ⁵	MTC and EMFAC2021	9,378,483	9,774,662	10,325,871	10,856,256	11,382,970
Off-road Diesel (gallons) ⁶	EMFAC 2021	472,841	547,673	605,283	666,526	732,098
Off-road Gasoline (gallons) ⁶	EMFAC 2021	256,674	275,967	293,882	312,115	328,790
Off-road Natural Gas (gallons) ⁶	EMFAC 2021	45,294	50,123	55,327	61,212	63,296

1 Population estimates were calculated by applying Bay Area region growth factors from Play Bay Area 2050 to Pinole's 2015 estimates from Play Bay Area 2040 (i.e., 2.83 people/household in 2015). Growth factors were calculated to represent the compound annual growth rate (i.e., -0.32% annual growth in people/household) from the modeled change in people per household in the Bay Area region between the years 2015 and 2050.

2 Employment and household estimates were calculated by applying West Contra Costa County growth factors from Play Bay Area 2050 to Pinole's 2015 estimates from Play Bay Area 2040 (i.e., 7,740 jobs in 2015 and 6,775 households in 2015). Growth factors were calculated to represent the compound annual growth rate (i.e., 1.48% annual growth in employment and 0.93% annual growth in households) from the modeled change in employment and households in West Contra Costa County between the years 2015 and 2050.

3 Service population is the sum of the estimated population and employees in the City of Pinole.

4 Passenger VMT was calculated based on results from the MTC Transportation Demand Model and augmented to include motorcycle VMT using data from EMFAC2021.

5 Commercial VMT was calculated using percent increase metrics in commercial VMT for Contra Costa County from EMFAC2021, which were applied to the commercial VMT total for 2017 from the 2017 community inventory, originally obtained from MTC. Commercial VMT was augmented to include motorhome and bus VMT using data from EMFAC2021. While VMT from buses was segmented and GHG emissions were calculated separately, the commercial VMT data shown here includes bus VMT.

6 Offroad fuel usage is calculated by applying the attribution metrics calculated from the demographics to the OFFROAD2021 model outputs for the forecast years to attribute the county-level outputs to Pinole.

The BAU forecast was calculated using the growth factors in Table 1, the demographic and projection metrics in

Table 2, and the 2017 community inventory emission factors. In the BAU forecast, GHG emissions are expected to increase through 2045. A summary of the BAU forecast results by GHG emission sector is provided in Table 3.



Table 3 BAU Forecast Results Summary by Emission Sector

GHG Emissions Sector	2025	2030	2035	2040	2045
Energy	36,252	38,331	40,537	42,877	45,359
Transportation	39,401	42,076	43,841	45,625	47,413
Waste	3,664	3,912	4,176	4,459	4,761
Water	69	74	79	85	90
Wastewater	114	122	130	139	148
Total	79,501	84,515	88,764	93,183	97,772

Adjusted Forecast

Several federal and state regulations have been enacted that would reduce Pinole’s GHG emissions in 2025, 2030, 2035, 2040, and 2045. The impact of these regulations was quantified and incorporated into the adjusted forecast to project future emissions growth and the responsibility of the City and community once established state regulations have been implemented. The state legislation included in the adjusted forecast results in GHG emission reductions related to transportation, building efficiency and renewable electricity. A brief description of each regulation and the methodology used to calculate associated reductions is provided in the following, as well as a description of why specific legislation was excluded from the analysis.

The adjusted forecast additionally includes GHG emissions reductions from the City’s switch from Pacific Gas and Electric (PG&E)-provided electricity to Marin Clean Energy (MCE)-provided electricity in 2018. MCE is a community choice aggregation (CCA) in Contra Costa County, which provides lower-emissions electricity options to Pinole. The GHG emissions reductions from this local action were included in the adjusted forecast because the action has already occurred and the GHG emissions reductions for the forecast are significant. GHG emissions reductions from MCE-provided electricity are detailed separately from state-driven legislative reductions in the following section for increased transparency. Detailed calculations for the adjusted forecast are included in Attachment A titled “Adjusted (State Legislation + MCE”).

Transportation Legislation

Major regulations incorporated into CARB’s 2021 transportation model (EMFAC2021) include Advanced Clean Car Standards (LEV III, ZEV program, etc.), Senate Bill 1, and Phase 2 Federal GHG Standards. Additional reductions were calculated for the Innovative Clean Transit (ICT) regulations from CARB. Signed into law in 2002, AB 1493 (Pavley Standards) required vehicle manufacturers to reduce GHG emissions from new passenger vehicles and light trucks from 2009 through 2016. Regulations were adopted by CARB in 2004 and took effect in 2009 when the United States Environmental Protection Agency (USEPA) issued a waiver confirming California’s right to implement the bill. The CARB anticipates that the Pavley I standard will reduce GHG emissions from new California passenger vehicles by about 30 percent in 2016, while simultaneously improving fuel efficiency and reducing motorists’ costs.⁶

⁶ CARB. Clean Car Standards – Pavley, Assembly Bill 1493. May 2013. <http://www.arb.ca.gov/cc/ccms/ccms.htm>

Prior to 2012, mobile emissions regulations were implemented on a case-by-case basis for GHG and criteria pollutant emissions separately. In January 2012, CARB approved a new emissions-control program combining the control of smog, soot-causing pollutants, and GHG emissions into a single coordinated package of requirements for passenger cars and light trucks for model years 2017 through 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles, Zero Emissions Vehicles, and Clean Fuels Outlet programs into a single coordinated package of requirements for model years 2017 to 2025. The new standards are anticipated to reduce GHG emissions by 34 percent in 2025.⁷

Public transit GHG emissions will also be reduced in the future through the ICT regulation, which was adopted in December 2018. It requires all public transit agencies to gradually transition to a 100-percent zero-emission bus fleet by 2040. Under ICT, large transit agencies are expected to adopt Zero-Emission Bus Rollout Plans to establish a roadmap towards zero emission public transit buses.⁸

Reductions in GHG emissions from the above referenced standards were calculated using CARB's EMFAC2021 model for Contra Costa County with additional reductions for ICT regulations modeled by Rincon. The EMFAC2021 model integrates the estimated reductions into the mobile source emissions portion of the model.⁹ The degree to which GHG emissions from on-road transportation will be reduced can be quantified as the difference between transportation emissions calculated using the 2017 provided emission factors and calculated using the reduced emission factors for the target years.

Advanced Clean Cars II was approved by CARB in August 2022 and expands the Advanced Clean Car Standards' roadmap so that by 2035 all new cars and passenger trucks will be zero-emission vehicles (ZEV). This regulation effectively binds the State to EO N-79-20, which was passed by the governor in 2020 and requires all new cars and passenger trucks sold in California be ZEV by 2035. While this legislation will lead to an expedited timeline for ZEV adoption in California, modeling data is not yet available, and emissions reductions attributable to the Advanced Clean Cars II program were therefore excluded from the GHG forecast.

Title 24

The California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated triennially to allow consideration and possible incorporation of new energy-efficient technologies and methods. Since the 2017 inventory year, the 2019 Title 24 Energy Efficiency Standards have come into effect, creating significantly more efficient new building stock. Starting in 2020, new residential developments must include on-site solar generation and near-zero net energy use. For projects implemented after January 1, 2020, the California Energy Commission

⁷ CARB. Facts About the Advanced Clean Cars Program. December 2011.
http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf

⁸ Innovative Clean Transit. Approved August 13, 2019. https://ww2.arb.ca.gov/sites/default/files/2019-10/ictfro-Clean-Final_0.pdf?utm_medium=email&utm_source=govdelivery

⁹ Additional details are provided in CARB's EMFAC2017 Technical Documentation, July 2018. (<https://www.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf>). Note that the Low Carbon Fuel Standard (LCFS) regulation is excluded from EMFAC2017 because most of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe). As a result, LCFS is assumed to not have a significant impact on CO₂ emissions from EMFAC's tailpipe emission estimates.



(CEC) estimates that the 2019 standards will reduce electricity consumption by 53 percent for residential buildings and 30 percent for non-residential buildings, relative to the 2016 standards. The CEC further estimates electricity efficiency increases of seven percent for residential end uses. No efficiency increases were estimated for commercial natural gas end uses, based on lack of requirements in this sector in the 2019 standards. These percentage savings relate to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses.

The 2022 standards have also been released since the 2017 inventory, but no guidance has been provided by the State on the energy reductions expected from these new standards. The 2022 standards were conservatively excluded from the GHG forecast.

The calculations and GHG emissions forecast assume that all growth in the residential and non-residential sectors is from new construction. The SB 32 Scoping Plan calls for the continuation of ongoing triennial updates to Title 24 that will yield regular increases in the mandatory energy and water savings for new construction, including the recent adoption of the 2022 standards. These recent and future updates to Title 24 standards for residential and non-residential alterations past 2025 are not taken into consideration due to lack of data and certainty about the magnitude of energy savings that will be realized with each subsequent update.

Renewables Portfolio Standard, SB 100, & SB 1020

Established in 2002 under Senate Bill 1078, enhanced in 2015 by Senate Bill 350, and accelerated for the first time in 2018 under Senate Bill 100, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2026 and 60 percent of total procurement by 2030. The RPS program further requires these entities to increase procurement from GHG-free sources to 100 percent of total procurement by 2045.

California's RPS was further accelerated in 2022 by SB 1020 which established additional requirements that procurement from eligible renewable energy resources increase to 90 percent of total procurement by 2035 and 95 percent of total procurement by 2040. The requirements of SB 1020 do not affect those previously set forth and are to be considered additional to the existing RPS requirements.

PG&E and MCE currently provide electricity in Pinole and are subject to RPS requirements.¹⁰ The RPS program and SB 1020 were incorporated into the GHG forecast by adjusting the electricity emissions factors for future years. As shown in Table 4, the RPS and SB 100 requirements to reduce overall carbon intensity would reduce Pinole's emissions.

¹⁰ MCE provides two electricity options in Pinole: Light Green and Deep Green portfolios. The Light Green portfolio contains 60 percent renewables while the Deep Green portfolio contains 100 percent renewables.



Table 4 Pinole Forecasted RPS and Electricity Emission Factors

Metric	2025	2030	2035	2040	2045
PG&E Renewables Mix	47.3%	60%	90%	95%	100%
PG&E Emission Factor (lbs CO ₂ e/MWh)	179.17	135.95	33.99	16.99	0
MCE Light Green Renewables Mix	65%	85%	90%	95%	100%
MCE Light Green Emission Factor (lbs CO ₂ e/MWh)	67.38	28.88	19.25	9.63	0
MCE Deep Green Renewables Mix	100%	100%	100%	100%	100%
MCE Deep Green Emission Factor (lbs CO ₂ e/MWh)	0	0	0	0	0

Notes: lbs CO₂e = pounds of carbon dioxide equivalent; MWh = megawatt-hour

MCE. Operational Integrated Resource Plan 2021-2030. 2020. https://www.mcecleanenergy.org/wp-content/uploads/2021/11/MCE-Operational-Integrated-Resource-Plan_2022.pdf.pdf. Accessed March 23, 2022

State Legislation not Considered in Adjusted Forecast

The following discussion highlights state legislation that plays an integral role in reducing GHG emissions, however, was not included in the emissions forecast calculations.

AB 939 & AB 341

In 2011, AB 341 set the target of 75 percent recycling, composting, or source reduction of solid waste by 2020 calling for the California Department of Resources Recycling and Recovery (CalRecycle) to take a statewide approach to decreasing California's reliance on landfills. This target was an update to the former target of 50 percent waste diversion set by AB 939.

SB 1383

In 2016, SB 1383 established a methane emission reduction target for short-lived climate pollutants¹¹ (SLCP) in various sectors of the economy. Specifically, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025 (CalRecycle 2019).¹² Additionally, SB 1383 requires a 20 percent reduction in "current" edible food disposal by 2025. Although SB 1383 has been signed into law, compliance at the jurisdiction-level is unproven. For example, Santa Clara County, in their *SB 1383 Rulemaking Overview* presentation (June 20, 2018),¹³ suggest that the 75 percent reduction in organics is not likely achievable under the current structure; standardized bin colors are impractical; and the general requirement is too prescriptive. As such, SB 1383 has not been included as part of the adjusted

¹¹ Short-lived climate pollutants (SLCP) are powerful climate forcers that have relatively short atmospheric lifetimes. These pollutants include the greenhouse gases methane and hydrofluorocarbons, and anthropogenic black carbon. CARB 2019. <https://ww2.arb.ca.gov/our-work/programs/short-lived-climate-pollutants>

¹² CalRecycle. April 16, 2019. Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions (General Information). <https://www.calrecycle.ca.gov/climate/slcp>

¹³ Santa Clara County. June 20, 2018. SB 1383 Rulemaking Overview. <https://www.sccgov.org/sites/rwr/rwrc/Documents/SB%201383%20PowerPoint.pdf>



forecast. Instead, measures addressing compliance with SB 1383 will be included and quantified through GHG reduction measures included in the CAP.

SB X7-7

Senate Bill (SB) X7-7, also known as the Water Conservation Act of 2009, requires that all water suppliers increase their water use efficiency. SB X7-7 establishes an urban water use reduction target of 20 percent below 2010 per capita daily water use levels by 2020.

Legislative GHG Emission Reduction Contribution

Based on the above-described legislation and emission reduction potential for each, the City of Pinole can expect significant help from these state regulations in meeting state GHG emission reduction goals. These GHG emissions reductions primarily contribute to the energy sector and transportation sectors, with some impact from California RPS on GHG emissions from water due to the energy required to treat, transport, and deliver water. Emissions reductions from legislation reductions and MCE reductions were calculated sequentially and separately to reflect the additivity of reductions. Title 24 reductions were accounted for first followed by California RPS reductions associated exclusively with PG&E electricity while MCE reductions were calculated outside of the legislation and added into the forecasted emissions separately. PG&E and MCE proportions of electricity were calculated by taking opt-out rates and applying them to total projected electricity use through 2045. The legislative emissions reductions for Title 24, California RPS, and MCE are known to be additive and were calculated to avoid double counting. A summary of the reductions from the BAU forecast that can be expected under the adjusted forecast are provided in Table 5.

Table 5 Summary of Legislative GHG Emissions Reductions

Legislation	2025	2030	2035	2040	2045
California RPS	2,281	4,578	10,231	11,799	13,478
Title 24	374	625	890	1,170	1,467
Transportation Legislation (Pavley, Innovative Clean Transit, etc.)	3,936	7,039	9,747	11,693	12,926
MCE	3,352	3,371	492	259	0
Total	9,943	15,613	21,361	24,921	27,871

Notes: All values are presented in metric tons of carbon dioxide equivalent (MT CO₂e)

Adjusted Forecast Results

In the adjusted forecast, the electricity and water sectors all experience a strong downward trend, approaching near-zero in 2045 due to stringent RPS requirements from SB 100 and SB 1020. Natural gas emissions are expected to continue an upward trajectory until 2045 due to housing and employment growth projections. This trend is partially offset due to the increasingly stringent efficiency requirements for new construction from Title 24. Transportation emissions are expected to decrease through 2045 due to existing fuel efficiency requirements, fleet turnover rates, and increasing vehicle electrification driven by the electric vehicle market. As most current regulations expire in 2025 or 2030, emissions standards will experience diminishing returns while VMT continues to increase, leading to lower rates of emissions reduction in the transportation sector. A detailed summary of the projected GHG emissions under the adjusted forecast by sector and year through 2045 can be found in Table 6.

Table 6 Adjusted Forecast Results

GHG Emissions Source	2017	2025	2030	2035	2040	2045
Residential Electricity	3,738	1,492	794	405	207	0
Non-residential Electricity	3,264	1,520	904	417	221	0
Direct Access Electricity	2,654	1,928	1,565	421	227	0
Residential Natural Gas	18,140	19,435	20,294	21,194	22,137	23,124
Non-residential Natural Gas	5,291	5,950	6,403	6,890	7,414	7,978
Energy Sector Total	33,088	30,324	29,960	29,327	30,206	31,102
On-road Passenger Vehicles	18,913	16,597	15,899	15,059	14,718	14,654
On-road Commercial Vehicles	10,868	10,773	10,024	9,033	8,313	8,025
On-road Buses	474	435	368	301	220	161
BART	228	253	270	288	308	329
Off-road Equipment	5,236	7,339	8,299	9,074	9,893	10,721
Transportation Sector Total	35,719	35,397	34,860	33,757	33,452	33,890
Waste	3,300	3,664	3,912	4,176	4,459	4,761
Water	63	59	47	13	7	0
Wastewater	103	114	122	130	139	148
Total GHG Emissions	72,273	69,558	68,902	67,403	68,262	69,901

Notes: All values are presented in metric tons of carbon dioxide equivalent (MT CO₂e)

Municipal Emissions Forecast

The municipal emissions are a subset of the community-wide emissions and therefore are included within the community-wide forecast presented above.¹⁴ The municipal emissions inventory is used as a tool to track progress in reducing GHG emissions for municipally owned facilities, and these emissions are not required to meet state goals. Therefore, the municipal emissions are not directly forecasted, and municipal emission reduction targets are not set according to state legislation.

GHG Reduction Targets

GHG reduction targets are used in climate action plans to establish measurable metrics intended to guide the community's commitment to achieve GHG emissions reductions and help gauge progress with reducing emissions over time. GHG targets are developed relative to a baseline emissions level. California has established statewide GHG reduction goals for 2030 and 2045. CARB's 2017 Scoping Plan recommends that local agencies provide their fair share GHG reduction to achieve the State's goals. Thus, local agencies are recommended to establish equivalent reduction targets at the local level by establishing community wide GHG reduction goals for climate action that will help California achieve its 2030 and 2045 goals.

¹⁴ Except for wastewater, which is processed for Pinole in the wastewater treatment plant located in Pinole that serves both Pinole and the neighboring community of Hercules. In the community inventory and forecast the wastewater sector includes GHG emissions from the wastewater treatment plant attributable to Pinole only, but in the municipal inventory includes all GHG emissions from the wastewater treatment plant.



CARB has issued several guidance documents concerning the establishment of GHG emission reduction targets for climate action plans to comply with legislated GHG emissions reductions targets and California Environmental Quality Act Guidelines (CEQA) § 15183.5(b). For example, as mentioned above, in the first California *Climate Change Scoping Plan*,¹⁵ CARB encouraged local governments to adopt evidence based GHGs reduction target for community emissions that are based on local emissions sectors and population projections that parallel the state commitment to reduce GHG emissions. In 2016, the State adopted SB 32 mandating a reduction of GHG emissions by 40 percent below 1990 levels by 2030 and AB 1279 establishes a state goal of carbon neutrality by 2045. Pursuant to the Scoping Plan's recommendations, the community GHG reduction targets will be developed based on local levels of GHG emissions that would be proportional to the statewide goals, relative to 1990.

1990 Back-cast

Pinole does not have a 1990 GHG inventory from which to estimate GHG reductions, however, equivalent targets can be calculated for the community relative to the State's 2017 statewide baseline and targets.

Pinole's 1990 GHG emissions have been calculated using the states 2017 GHG emissions inventory as compared to the State's GHG emissions inventory in 1990 to calculate specific percent reduction in Pinole between 2017 and 1990. This approach assumes that the City's community GHG emissions have generally tracked with the State's GHG emissions. The calculation is developed using the published statewide emissions results from CARB, after removing emissions from sectors not included in the City's inventory (i.e., agricultural, industrial, and high GWP sectors). The 1990 back-cast for Pinole is shown in Table 7.

Table 7 1990 Back-cast

1990 Back-cast Calculations	
2017 Statewide GHG Emissions (MMT CO ₂ e)	283.30
1990 Statewide GHG Emissions (MMT CO ₂ e)	309.60
2017 to 1990 Statewide GHG Emissions Change (%)	9.28%
2017 Pinole GHG Emissions (MT CO ₂ e)	72,273
1990 Pinole GHG Emissions Back-cast (MT CO ₂ e)	78,982
1990 Pinole Population	17,000
1990 Pinole per Capita GHG Emissions Back-cast (MT CO ₂ e/person)	4.65

Provisional GHG Reduction Targets

GHG reduction targets can be set as either an efficiency target (MT CO₂e per capita) or as a community-wide mass emissions target (total MT CO₂e). With CARB's 2017 Scoping Plan Update, the State recommends using efficiency metrics for local targets to incentivize growth in a coordinated manner and

¹⁵ 2008 Climate Change Scoping Plan https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf



not penalize cities which are growing at significant rates.¹⁶ Efficiency metrics continue to be used and are recommended in the 2022 Scoping Plan.

GHG Emissions Reduction Target Setting

Target setting is an iterative process which must be informed by the reductions that can realistically be achieved through the development of feasible GHG reduction measures. As such, the targets identified herein should remain provisional until the quantification and analysis of potential GHG reduction measures has been completed. The purpose of target setting is to develop the trajectory toward achieving the State's 2030 goal and prepare for the deep decarbonization needed by 2045 in a cost-effective manner by setting an incremental path toward achieving the AB 1279 goals. CARB guidance is for jurisdictions to first strive to exceed the SB 32 targets of reducing GHG emissions 40 percent below 1990 levels, while establishing a policy framework to work towards the long-term target of carbon neutrality by 2045. Additionally, Pinole's City Council adopted a Climate Emergency Resolution in October 2021 that directed staff to develop a GHG inventory and CAP that align with State's GHG reduction targets for SB 32 and EO B-55-18 (which was codified by AB 1279). With GHG emission reduction targets in place, the reduction gap that the City will be responsible for through local action can be calculated. The City's future Climate Action and Adaptation Plan (CAAP) will assess the GHG reduction gap based on the difference between the adjusted forecast, discussed previously, and the established GHG reduction targets. Table 8 provides a summary of the GHG emission reduction targets and gap in both mass emissions and per capita emissions metrics. The per capita targets are calculated by dividing forecasted GHG emissions by the expected City population in each target year.

Table 8 GHG Emission Reduction Targets and Gap Analysis

Emissions Forecast or Pathway	2017	2025	2030	2035	2040	2045
Mass Emissions Target Pathway Scenario						
Adjusted Forecast (MT CO ₂ e)	72,273	69,558	68,902	67,403	68,262	69,901
SB 32 Mass Emissions Target Pathway (MT CO ₂ e) ¹	72,273	56,960	47,389	31,593	15,796	0
Remaining Emissions Gap (MT CO ₂ e)	0	12,598	21,512	35,810	52,466	69,901
Per Capita Emissions Target Pathway Scenario						
Population	19,663	21,718	23,110	24,592	26,168	27,845
Per Capita Adjusted Forecast (MT CO ₂ e/person)	3.68	3.20	2.98	2.74	2.61	2.51
SB 32 Per Capita Target Pathway (MT CO ₂ e/person) ²	3.68	3.13	2.79	1.86	0.93	0
Remaining Per Capita Emissions Gap (MT CO ₂ e/person)	0	0.07	0.19	0.88	1.68	2.51

Notes: MT CO₂e = Metric tons of carbon dioxide equivalent

Emissions have been rounded to the nearest whole number and therefore sums may not match.

1. The target pathway is calculated by reducing 1990 mass emissions by 40% in 2030 and to 0 MT CO₂e in 2045. This target pathway is consistent with both SB 32 and a trajectory set forth to achieve AB 1279.

2. The target pathway is calculated by reducing 1990 per capita emissions by 40% in 2030 and to 0 in 2045. This provisional target pathway is consistent with both SB 32 and a trajectory set forth to achieve AB 1279.

¹⁶ California Air Resources Board. 2017. California's Climate Change Scoping Plan, p. 99-102.

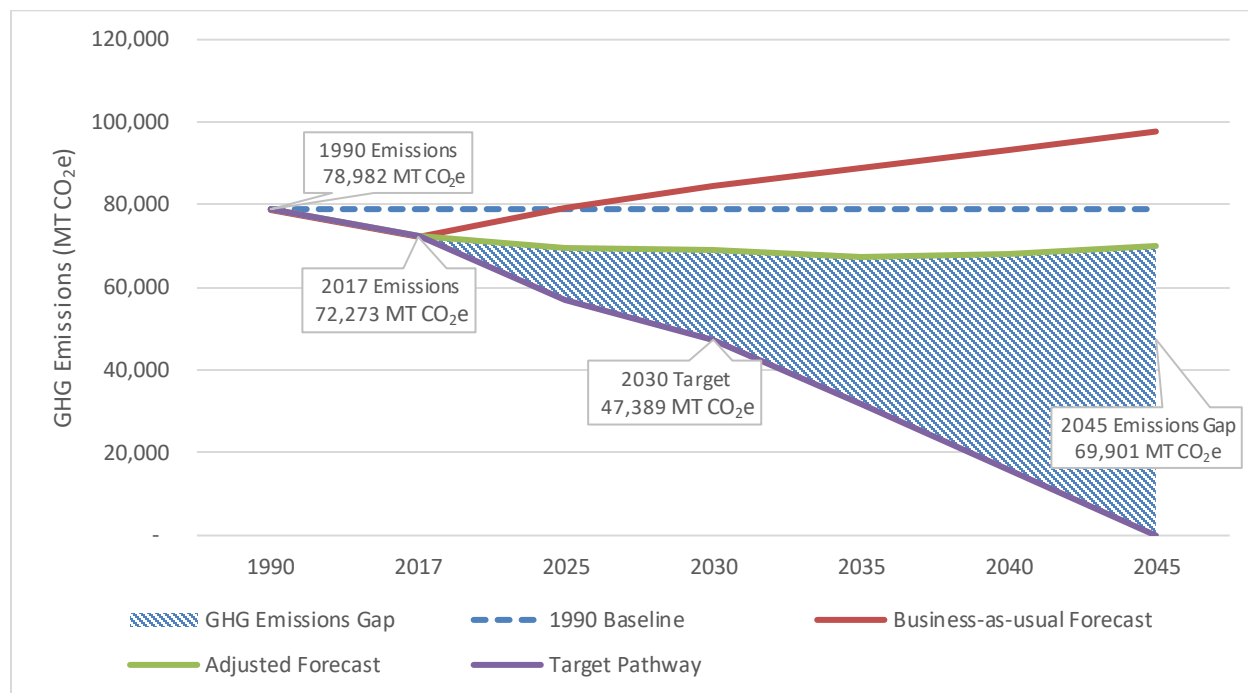


According to the Association of Environmental Professionals (AEP), the feasibility of achieving substantial reductions through local action only is questionable given limitations on local municipality authority. The AEP also states that no city or county is completely autonomous in matters of energy and transportation systems; and notes that a municipality can influence certain matters; however, many decisions about the electricity and transportation systems are under the control of the State and federal government, and/or are controlled by market determinations. Achieving the established target will require major shifts in how communities within California obtain and use energy, transport themselves and goods, and how the population lives and builds. These transformations would require implementation across all levels of the economy, not just what local jurisdictions have authority over. As such, placing the burden predominantly on local jurisdictions would thus be highly disproportional, costly, and potentially subject to litigation.¹⁷

Establishing a minimum 2030 target of **2.79 MT CO₂e per person, or 47,389 MT CO₂e per year, for 2030** (the SB 32 target year) and a long-term target of **0 MT CO₂e per person, or carbon neutrality**, for 2045 will demonstrate the City's commitment to aligning with state goals. The 2030 target will maintain compliance with SB 32, as well as align with the AB 1279 emissions reduction trajectory. However, as noted at the beginning of this memorandum, the long-term reduction targets are provisional and may need to be adjusted based on the reductions that can realistically be achieved from feasible GHG reduction measures that will be identified during the climate action planning process. The intent of the City's future CAAP will be to demonstrate substantial progress toward the long-term state reduction goals. New opportunities are anticipated to emerge that could yield additional reductions beyond those identified in the City's future CAAP. Another phase of local climate action planning will be needed to continue and expand the actions in the future CAAP and to explore new strategies to meet the 2045 GHG reduction target. Figure 1 provides a visual representation of future GHG emissions, with the impacts of state legislation and the remaining gap Pinole will be responsible for the meet the mass GHG emission reduction targets.

¹⁷ AEP. Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets in California. October 2016.

Figure 1 GHG Emissions Forecast and Provisional Target Pathways (Mass Emissions)



Meeting the Targets

The 2025, 2030, 2035, 2040, and 2045 targets identified above will be achieved through a combination of existing state measures and the implementation of local measures that will be identified in the City's CAAP. Local measures will be identified through a comprehensive assessment of existing local and regional policies, programs, and actions and by assessing any gaps and identifying additional opportunities. Additional measures will be developed from best practices of other similar and neighboring jurisdictions, as well as those recommended by organizations and agencies, such as the California Air Pollution Control Officers Association, the Office of Planning and Research, CARB's 2017 Scoping Plan, and AEP.

Sincerely,

Rincon Consultants, Inc.



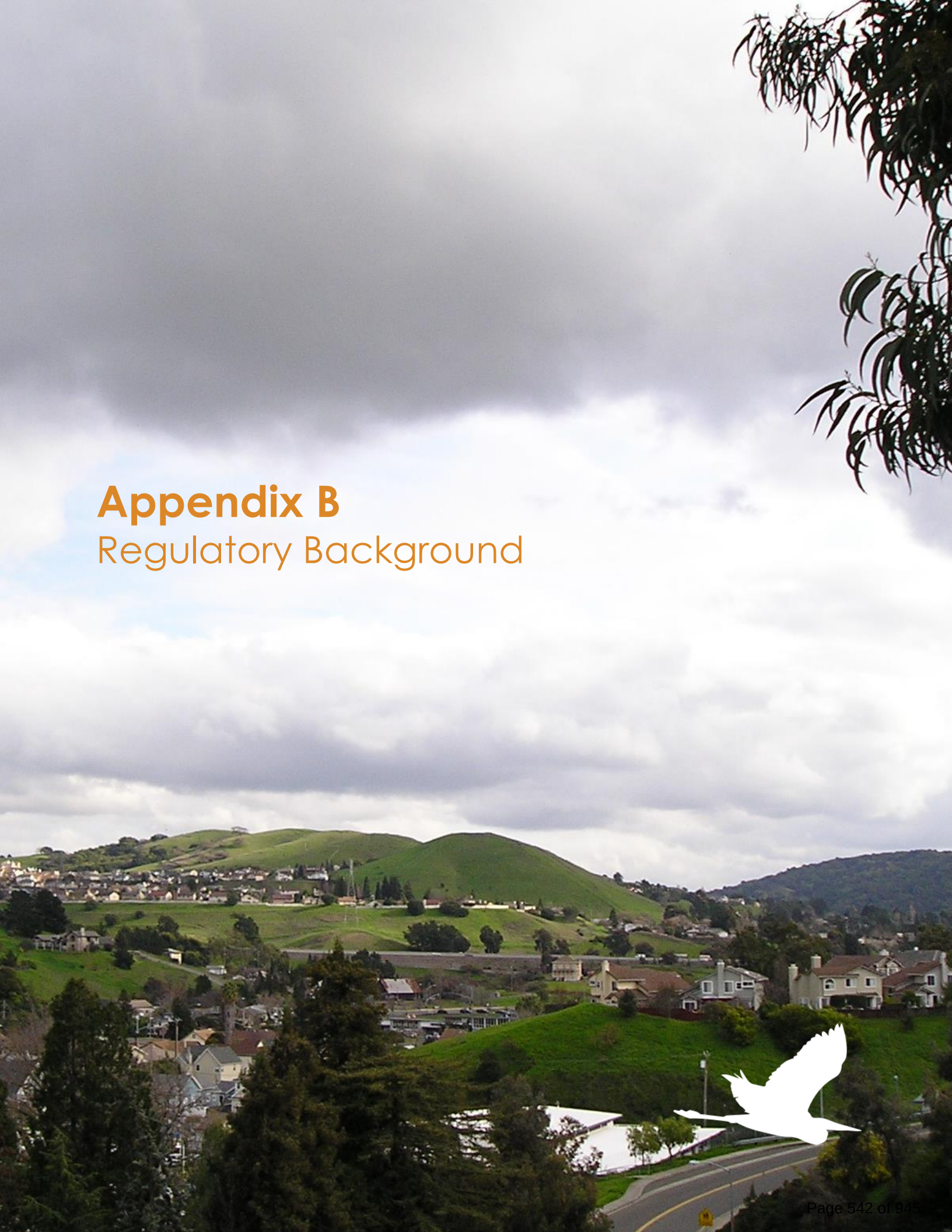
Erik Feldman, MS, LEED AP
Principal



Hannah Mize
Sustainability Project Manager

Attachment A Detailed GHG Emissions Forecast Calculations

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Appendix B

Regulatory Background

Regulatory Summary

As the impacts of climate change are being recognized, many strategies that address climate change have emerged at all levels of government. This section provides an overview of the regulatory context at the international, state, and local levels relative to the City of Pinole's actions toward reducing greenhouse gas (GHG) emissions.

International Climate Action Guidance

United Nations Framework Convention on Climate Change (1992)

The primary international regulatory framework for GHG reduction is the United Nations Framework Convention on Climate Change Paris Agreement (UNFCCC). The UNFCCC is an international treaty adopted in 1992 with the objective of stabilizing atmospheric GHG concentrations to prevent disruptive anthropogenic climate change. The framework established non-binding limits on global GHG emissions and specified a process for negotiating future international climate-related agreements.¹

Kyoto Protocol (1997)

The Kyoto Protocol is an international treaty that was adopted in 1997 to extend and operationalize the UNFCCC. The protocol commits industrialized nations to reduce GHG emissions per country-specific targets, recognizing that they hold responsibility for existing atmospheric GHG levels. The Kyoto Protocol involves two commitment periods during which emissions reductions are to occur, the first of which took place between 2008-2012 and the second of which has not entered into force.²

The Paris Agreement (2015)

The Paris Agreement is the first-ever universal, legally binding global climate agreement that was adopted in 2015 and has been ratified by 190 countries worldwide.³ The Paris Agreement establishes a roadmap to keep the world under 2° C of warming with a goal of limiting an increase of temperature to 1.5° C. The agreement does not dictate one specific reduction target, instead relying on individual countries to set nationally determined contributions (NDCs) or reductions based on GDP and other factors. According to the International Panel on Climate Change (IPCC), limiting global warming to 1.5° C will require global emissions to be reduced through 2030 and hit carbon neutrality by mid-century.⁴

Glasgow Climate Pact (2021)

The Glasgow Climate Pact⁵ (Pact) was adopted by nearly 200 nations in 2021 and builds on the 2015 Paris Agreement. The Pact includes an agreement to revisit the emissions reduction plans to keep the 1.5° C target achievable. It is the first global climate agreement to commit to phasing down the use of

1 United Nations Framework Convention on Climate Change (UNFCCC). United Nations Framework Convention on Climate Change. https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

2 UNFCCC. What is the Kyoto Protocol? https://unfccc.int/kyoto_protocol

3 UNFCCC. Paris Agreement - Status of Ratification. <https://unfccc.int/process/the-paris-agreement/status-of-ratification>

4 IPCC. Global Warming of 1.5 C. <https://www.ipcc.ch/sr15/>

5 <https://unfccc.int/documents/310475>

unabated coal. Further, the Pact includes a commitment to provide climate finance to developing countries.

California Regulations and State GHG Targets

California remains a global leader in the effort to reduce GHG emissions and combat climate change through its mitigation and adaptation strategies. With the passage of Assembly Bill (AB) 32 in 2006, California became the first state in the United States to mandate GHG emission reductions across its entire economy. To support AB 32, California has enacted legislation, regulations, and executive orders (EO) that put it on course to achieve robust emission reductions and address the impacts of a changing climate. The following is a summary of executive and legislative actions most relevant to the City of Pinole's Climate Action and Adaptation Plan (CAAP).

Senate Bill 1078 (2002)

In 2002, (Senate Bill) SB 1078 established the California Renewables Portfolio Standards (RPS) Program and was accelerated in 2006 by SB 107, requiring that 20 percent of retail electricity sales be composed of renewable energy sources by 2010. EO S-14-08 was signed in 2008 to further streamline California's renewable energy project approval process and increase the State's RPS to the most aggressive in the nation at 33 percent renewable power by 2020.

Assembly Bill 1493 (2002)

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs CARB to adopt standards that will achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles," considering environmental, social, technological, and economic factors. In September 2009, CARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, CARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and GHGs and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

Executive Order S-3-05 (2005)

EO S-3-05 was signed in 2005 establishing statewide GHG emissions reduction targets for the years 2020 and 2050. The EO calls for the reduction of GHG emissions in California to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The 2050 emission reductions target would put the State's emissions in line with the worldwide reductions needed to reach long-term climate stabilization as concluded by the IPCC 2007 *Fourth Assessment Report*.

Assembly Bill 32 (2006)

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

Based on this guidance, CARB approved a 1990 statewide GHG baseline and 2020 emissions limit of 427 million metric tons of CO₂ equivalent (MMT CO₂e). The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards,⁶ and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2014 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

Senate Bill 107 (2006)

SB 107 builds on SB 1078 and requires investor-owned utilities, energy service providers, and Community Choice Aggregations to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached, no later than 2010. The California Public Utilities Commission and California Energy Commission are jointly responsible for implementing the program.

Executive Order S-1-07 (2007)

Also known as the Low Carbon Fuel Standard, EO S-1-07, issued in 2007, established a statewide goal that requires transportation fuel providers to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. EO S-1-07 was readopted and amended in 2015 to require a 20 percent reduction in carbon intensity by 2030, the most stringent requirement in the nation. The new requirement aligns with California's overall 2030 target of reducing climate-changing emissions 40 percent below 1990 levels by 2030, which was set by SB 32 and signed by the governor in 2016.

Senate Bill 97 (2007)

Signed in August 2007, SB 97 acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

Senate Bill 375 (2008)

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and

6 On September 19, 2019 the National Highway Traffic Safety Agency (NHTSA) and the US Environmental Protection Agency (EPA) issued a final action entitled the One National Program on Federal Preemption of State Fuel Economy Standards Rule. This action finalizes Part I of the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule. This rule states that federal law preempts State and local tailpipe greenhouse gas (GHG) emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Rule withdraws the Clean Air Act waiver it granted to California in January 2013 as it relates to California's GHG and zero emission vehicle programs.



2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPOs) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the MPO's Regional Transportation Plan (RTP).

Executive Order S-14-08 (2008)

EO S-14-08 was issued in 2008 and sets a statewide target of 33 percent renewable energy use by 2020.

California Green Building Code (2009)

The California Green Building Standards Code (CALGreen) is Part 11 of the California Building Standards Code or Title 24 and is the first statewide "green" building code in the nation. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings. Enhancements include reduced negative impact designs, positive environmental impact designs, and encouragement of sustainable construction practices. The first CALGreen Code was adopted in 2009 and has been updated in 2013, 2016, and 2019. The CALGreen Code will have subsequent, and continually more stringent, updates every three years.

Senate Bill X7-7 (2009)

In 2009, SB X7-7, also known as the Water Conservation Act, was signed, requiring all water suppliers to increase water use efficiency. This legislation sets an overall goal of reducing per capita urban water use by 20 percent by 2020.

Senate Bill 2X (2011)

SB 2X was signed in 2011, requiring California energy providers to buy (or generate) 33 percent of their electricity from renewable energy sources by 2020.

Assembly Bill 341 (2012)

AB 341 directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 2012, businesses were required to recycle, and jurisdictions had to implement a program that includes education, outreach, and monitoring. AB 341 also set a statewide goal of 75 percent waste diversion by the year 2020.

Assembly Bill 32 Scoping Plan Update (2014)

In 2014, CARB approved the first update to the Scoping Plan. This update defines CARB's climate change priorities and sets the groundwork to reach the post-2020 targets set forth in EO S-3-05. The update highlights California's progress toward meeting the near-term 2020 GHG emissions reduction target, defined in the original Scoping Plan. It also evaluates how to align California's longer-term GHG reduction strategies with other statewide policy priorities, such as water, waste, natural resources, clean energy, transportation, and land use.

Assembly Bill 1826 (2014)

AB 1826 was signed in 2014 to increase the recycling of organic material. GHG emissions produced by the decomposition of these materials in landfills were identified as a significant source of emissions contributing to climate change. Therefore, reducing organic waste and increasing composting and

mulching are goals set out by the AB 32 Scoping Plan. AB 1826 specifically requires jurisdictions to establish organic waste recycling programs by 2016, and phases in mandatory commercial organic waste recycling over time.

Senate Bill 350 (2015)

SB 350, the Clean Energy and Pollution Reduction Act of 2015, has two objectives: to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by 2030 and to double the energy efficiency of electricity and natural gas end users through energy efficiency and conservation.

Executive Order B-30-15 (2015)

In 2015, EO B-30-15 was signed, establishing an interim GHG emissions reduction target to reduce emissions to 40 percent below 1990 levels by 2030. The EO also calls for another update to the CARB Scoping Plan.

Senate Bill 32 (2016)

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). The bill charges CARB to adopt the regulation so that the maximum technologically feasible emissions reductions are achieved in the most cost-effective way.

Senate Bill 1383 (2016)

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires CalRecycle, in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. The bill further requires 20 percent of edible food disposed of at the time to be recovered by 2025.

Scoping Plan Update (2017)

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 .

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by



2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

Senate Bill 100 (2018)

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's RSP Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18 (2018)

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Executive Order N-79-20 (2020)

In September 2020, EO N-79-20 requires that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles. EO N-79-20 also requires that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks and notes that the State shall transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible.

Executive Order N-79-20 (2020)

On September 23, 2020, the governor issued EO N-79-20, which sets new statewide goals for phasing out gasoline-powered cars and trucks in California, which is applicable to state agencies. The EO requires 100 percent of in-state sales of new passenger cars and trucks to be zero-emission by 2035; 100 of in-state sales of medium- and heavy-duty trucks and busses to be zero-emission by 2045, where feasible; and 100 percent of off-road vehicles and equipment sales to be zero-emission by 2035, where feasible.

Senate Bill 27 (2021)

Adopted on September 23, 2021, SB 27 requires the state Natural Resources Agency to establish carbon sequestration goals for natural and working lands by July 2023. SB 27 also requires the Natural Resources Agency to create a registry of projects for public and private investment and track the carbon benefits of each project. The projects that would be part of this program may not generate compliance offsets under California's Cap-and-Trade program. Additionally, as part of the next Scoping Plan Update, CARB is required to establish specific CO₂ removal targets starting in 2030.

Senate Bill 379 (2022)

Adopted September 16, 2022, SB 379 requires cities and counties to implement an online, automated permitting platform to verify solar installation code compliance and issue permits in real time for residential solar energy systems no larger than 38.4 kilowatt hours.



Senate Bill 1020 (2022)

Adopted September 16, 2022, SB 1020 expedites the previous goals established by SB 100, by establishing a clean electricity goal for end-use customers of 90 percent by 2035, and 95 percent by 2040. Additionally, SB 1020 requires 100 percent of all electricity procured to serve all state agencies to be clean energy by December 31, 2035.

Senate Bill 1063 (2022)

Adopted September 16, 2022, SB 1063 creates appliance efficiency standards set by the State Energy Resources Conservation and Development Commission, which may now take effect sooner than one year after their adoption/revision. SB 1063 builds on Title 20 efficiency standards enforced through the California Energy Commission and first adopted in 1977.

Assembly Bill 1909 (2022)

Adopted September 16, 2022, AB 1909 removes prohibition of operating motorized electric bicycles or Class 3 bikes on bicycle paths or trails, bikeways, or bicycle lanes. However, the bill also includes an exemption for the Department of Parks and Recreation, which may prohibit these classes of bicycles on any bicycle path or trail within the department's jurisdiction, where appropriate.

Assembly Bill 1857 (2022)

Adopted September 16, 2022, AB 1857 amends various sections of the California Integrated Waste Management Act of 1989, which required jurisdictions to divert 50 percent of solid waste through source reduction, recycling, and composting activities, with no more than 10 percent through transformation. AB 1857 repeals the provision that jurisdictions may divert 10 percent through transformation (e.g., incineration). Additionally, AB 1857 requires the Department of Resources Recycling and Recovery to establish the Zero-Waste Equity Grant Program to support targeted strategies and investments in communities transitioning to zero-waste circular economies.

Assembly Bill 1985 (2022)

Adopted September 16, 2022, AB 1985 establishes penalties for jurisdictions that do not meet SB 1383 requirements. The penalty will be based on the percentage of the target the jurisdiction was able to achieve.

Assembly Bill 1279 (2022)

In September 2022, AB 1279 (e.g., the California Climate Crisis Act) was approved, which established a legally binding requirement for California to achieve and maintain carbon neutrality no later than 2045. Assembly Bill 1279 also established the requirement to achieve a Statewide reduction in GHG emissions of 85 percent below 1990 levels by 2045. This indicates that the remaining 15 percent to achieve carbon neutrality can be achieved via carbon sequestration and other non-direct-GHG-emissions-reductions techniques.

2022 Scoping Plan Update (2022)

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB adopted the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 Update builds upon

the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused paths to achieve California's climate goals. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action in natural working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a goal of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.⁷

Advanced Clean Cars II (2022)

By 2035 all new passenger cars, trucks and SUVs sold in California will be zero emission vehicles. The Advanced Clean Cars II regulations take the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augments them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent zero-emission vehicles.

Senate Bill 1020 (2022)

SB 1020, also known as the Clean Energy, Jobs, and Affordability Act of 2022, would build off of existing laws and require that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035, 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040, 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045, and 100 percent of electricity procured to serve all state agencies by December 31, 2035, as specified.

City of Pinole Sustainability Plans and Policies

The City of Pinole has established initiatives related to increasing adaptive capacity and reducing GHG emissions and the potential impacts of climate change. These initiatives are primarily detailed in the Pinole Creek Watershed Vision Plan, General Plan – Sustainability Element, Three Corridor Specific Plan, Pinole Green Infrastructure Plan, City of Pinole Climate Resolution, updated emissions inventory, and Pinole Capital Improvement Plan (FY 22/23 – 26/27), each of which is discussed in detail below.

Pinole Creek Watershed Vision Plan (2004)

The Pinole Creek Watershed Vision Plan⁸ provides a consolidated list of goals and actions developed to outline the proposed future of the Pinole Creek Watershed. In total, the Pinole Creek Watershed Vision Plan includes nine overarching goals and a variety of actions that were developed to help achieve the goals. Goals included improving the water quality of Pinole Creek, restoring health and quality of the

⁷ CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023)

⁸ Urban Creeks Council. June 2004. Pinole Creek Watershed Vision Plan: A Local Community-Based Effort. <https://s3-us-west-2.amazonaws.com/uclcd-nuxeo-ref-media/c6f48c7b-fe69-41f2-a4fb-c5c0382f1689> (accessed April 2024)

surrounding environment, providing educational opportunities, increasing flood protection, and improving recreation among others.

General Plan – Sustainability Element (2010)

The City adopted an updated General Plan in 2010, which includes 12 chapters. Chapter 11, the Sustainability Element,⁹ supports land use patterns and programs that will enhance opportunities to improve ecological conditions, enhance the local economy, and provide equal job, housing, education, recreation, and transportation opportunities. This chapter was developed to begin addressing climate change in the City and develop goals related to reducing greenhouse gas emissions, encouraging renewable energy sources, expanding local use of green technology, and educating Pinole’s residents on how they can live fully while preserving Pinole for future generations. As outlined in the Sustainability Element, because sustainability is at the core of the General Plan, it is integrated through each chapter. According to the Sustainability Element, *“a sustainable Pinole is one where members [of the community] meet their needs and express their greatest potential in the present and plan and act on or the ability to maintain these ideals indefinitely.”*

Three Corridor Specific Plan (2010)

The purpose of the Three Corridor Specific Plan¹⁰ is to facilitate revitalization of the San Pablo Avenue, the Pinole Valley Road, and the Appian Way commercial corridors, which are designated as Priority Development Areas (PDAs). Though the project area contains three distinct corridors, each of which has a unique character, they are combined into one Specific Plan to coordinate land use planning where they intersect, efficiently communicate common standards and provisions, and provide consistency in planning for these three areas. While the General Plan is the primary guide for growth and development within Pinole, this Specific Plan seeks to establish a direct connection between the City of Pinole’s General Plan and economic and revitalization opportunities within the three Specific Plan corridors. An overall goal is the orderly development of three project area(s) – San Pablo Avenue, Pinole Valley Road, and Appian Way –consistent with the City’s General Plan and, more specifically, with the community’s vision developed through the Specific Plan public outreach process.

Pinole Green Infrastructure Plan (2019)

The City’s Green Infrastructure Plan¹¹ was developed to meet the requirements of the California Regional Water Quality Control Board for the San Francisco Bay Region’s (RWQCB’s) Municipal Regional Stormwater Permit (MRP), which mandates implementation of a comprehensive program of stormwater control measures and actions designed to limit contributions of urban runoff pollutants to San Francisco Bay. Specifically, MRP Provision C.3.j.i. requires the City to prepare a Green Infrastructure Plan. For the

9 Pinole, City of. 2010. Sustainability Element of the General Plan (Chapter 11). (accessed April 2024) https://cdnsm5-hosted.civdive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter11.pdf

10 Pinole, City of. November 2010. Three Corridors Specific Plan. (accessed April 2024) https://cdnsm5-hosted.civdive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/Three%20Corridors/City_of_Pinole_Corridor_Specific_Plan_2010%20-%20updated%206.16.20.pdf

11 Pinole, City of. December 2019. City of Pinole Green Infrastructure Plan. (accessed April 2024) https://cdnsm5-hosted.civdive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Public%20Works/Storm%20Water/2019.12.16%20Pinole%20GI%20Plan_Final.pdf



purposes of the plan, Green Infrastructure (GI) refers to the construction and retrofit of storm drainage to reduce runoff volumes, disperse runoff to vegetated areas, harvest and use runoff where feasible, promote infiltration and evapotranspiration, and use bioretention and other natural systems to detain and treat runoff before it reaches our creeks and Bay. As outlined under the Plan's Objective and Vision, the Plan will guide a shift from conventional "collect and convey" storm drain infrastructure to more resilient, sustainable stormwater management systems that reduce runoff volumes, disperse runoff to vegetated areas, harvest and use runoff where feasible, promote infiltration and evapotranspiration, and use natural processes to detain and treat runoff.

City of Pinole Climate Emergency Resolution (2021)

On October 19, 2021, the Pinole City Council adopted Resolution No. 2021-93 that declared a Climate Emergency. This resolution acknowledges the disastrous effects that climate change threatens to have on the City's public health, economy, infrastructure, and overall wellbeing. The Climate Resolution outlined the need for preparation of a Climate Action Plan that aligns with the state's goals for emissions reductions. Additionally, the Climate Emergency Resolution states that the health, social-economic, and racial equity considerations should be included in policymaking and climate solutions across all sectors to protect all community members, with an emphasis on youth, older adults, low-income or communities of color, and other vulnerable populations.

Updated Greenhouse Gas Emissions Inventory (2021)

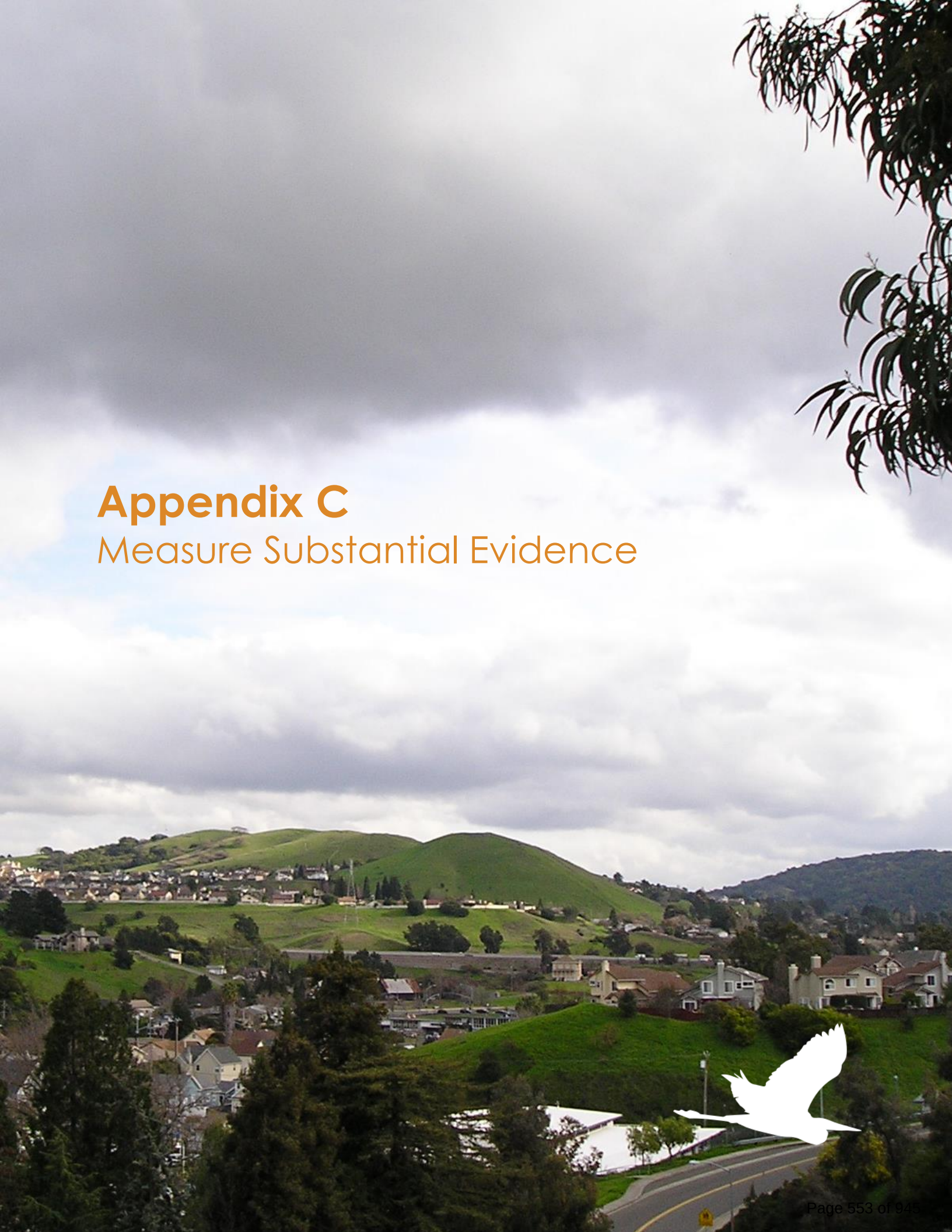
The City of Pinole updated the 2017 GHG emissions community inventory (2017 Inventory), which was originally prepared by East Bay Energy Watch (EBEW) as part of a regional GHG emissions inventory in June 2020. Establishing a consistent methodology and accurate baseline emissions inventory provides the City with an opportunity to track the success of sustainability and climate action efforts and establish a pathway to reduce GHG emissions in accordance with the City's and state's goals. As part of the review, the inventory was updated following the ICLEI Local Governments for Sustainability Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Community Protocol) and with current and accurate data sources and emission factors.¹²

Pinole Capital Improvement Plan (FY 22/23 – 26/27) (2022)

As outlined in the Capital Improvement Plan,¹³ it is a multi-year planning tool used to identify and implement the City's capital needs over the upcoming five-year period. The CIP aligns the needs with appropriate funding, scheduling, and implementation. This document is a working blueprint for building and sustaining publicly funded physical infrastructure. Capital improvements refer to physical assets and include the design, purchase, construction, maintenance, or improvement of public resources (i.e. parks public infrastructure, equipment, public spaces). These improvements influence Pinole's built and natural environment and help guide the trajectory of future growth or change.

¹² ICLEI – Local Governments for Sustainability USA. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions Version 1.2.

¹³ City of, Pinole. June 21, 2022. Pinole Capital Improvement Plan (FY 22/23 – 26/27). (accessed April 2024) https://cdns5-hosted.civildive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Public%20Works/Capital%20Projects/AttachmentA_Final_Proposed_CIP.pdf



Appendix C

Measure Substantial Evidence



Climate Action and Adaptation Plan

Greenhouse Gas Emissions Reductions Technical Report

prepared for

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Table of Contents

1	Introduction	1
1.1	GHG Emission Reduction Targets.....	1
1.2	Mitigation Measures and Actions Organization	2
1.3	GHG Emissions Reductions	3
2	Strategy CR: Cornerstone to Climate Action and Adaption Planning.....	6
3	Strategy BE: Building Energy.....	7
4	Strategy TR: Transportation.....	38
5	Strategy SW: Solid Waste	53
6	Strategy W: Water	59
7	Strategy CS: Carbon Sequestration.....	61
8	Municipal Mitigation Strategies	63
9	Adaptation Strategies	64

Figures

Figure 1	City of Pinole's GHG Emissions Reductions Pathway.....	5
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Tables

Table 1	Pinole CAAP GHG Emission Reduction Summary by Mitigation Measure.....	3
Table 2	City of Pinole's GHG Emissions Reductions Pathway.....	4
Table 3	Strategy CR: Cornerstone to Climate Action and Adaption Planning GHG Emission Reduction Summary.....	6
Table 4	Strategy BE: Building Energy GHG Emission Reduction Summary.....	7
Table 5	All-electric New Construction Parameters and Data Sources.....	9
Table 6	All-electric New Construction GHG Emission Reduction Calculations.....	10
Table 7	Pinole's Housing Stock Age	12
Table 8	All-electric Residential Major Renovation Parameters and Data Sources.....	13
Table 9	All-electric Residential Major Renovation GHG Emission Reduction Calculations	14
Table 10	Two-Way Residential Air Conditioning Ordinance Parameters and Data Sources	15
Table 11	Two-Way Residential Air Conditioning Ordinance GHG Emission Reduction Calculations.....	17
Table 12	BAAQMD Zero-NOx Rule for Residential Water Heating Parameters and Data Sources.....	19
Table 13	BAAQMD Zero-NOx Rule for Residential Water Heating GHG Emission Reduction Calculations.....	21
Table 14	End-of-flow Ordinance Parameters and Data Sources	22

Table 15	End-of-flow Ordinance GHG Emission Reduction Calculations	22
Table 16	All-electric Nonresidential Major Renovation Parameters and Data Sources.....	24
Table 17	All-electric Nonresidential Major Renovation GHG Emission Reduction Calculations.....	25
Table 18	Two-Way Nonresidential AC Ordinance Parameters and Data Sources.....	26
Table 19	Two-Way Nonresidential AC Ordinance GHG Emission Reduction Calculations	28
Table 20	BAAQMD Zero-NOx Rule for Commercial and Mixed-use Water Heating Parameters and Data Sources.....	30
Table 21	BAAQMD Zero-NOx Rule for Commercial and Mixed-use Water Heating GHG Emission Reduction Calculations	32
Table 22	End-of-flow Ordinance Parameters and Data Sources	33
Table 23	End-of-flow Ordinance GHG Emission Reduction Calculations	34
Table 24	Carbon-free and Renewable Electricity Parameters and Data Sources.....	36
Table 25	Carbon-free and Renewable Electricity GHG Emission Reduction Calculations.....	36
Table 26	Strategy TR: Transportation GHG Emission Reduction Summary.....	38
Table 27	Active Transportation Mode Share Parameters and Data Sources	40
Table 28	Active Transportation Mode Share GHG Emission Reduction Calculations	41
Table 29	Public Transit Mode Share Parameters and Data Sources	42
Table 30	Public Transit Mode Share GHG Emission Reduction Calculations.....	43
Table 31	Publicly Accessible Electric Vehicle Charger Parameters and Data Sources.....	45
Table 32	Publicly Accessible Electric Vehicle Charger Parameters and Data Sources.....	46
Table 33	Passenger Zero-emission Vehicle Adoption Parameters and Data Sources	47
Table 34	Passenger Zero-emission Vehicle Adoption GHG Emission Reduction Calculations.....	48
Table 35	Commercial Zero-emission Vehicle Adoption Parameters and Data Sources	49
Table 36	Commercial Zero-emission Vehicle Adoption GHG Emission Reduction Calculations.....	50
Table 37	Off-road Decarbonization Parameters and Data Sources.....	51
Table 38	Off-road Decarbonization GHG Emission Reduction Calculations.....	52
Table 39	Strategy SW: Solid Waste GHG Emission Reduction Summary	53
Table 40	Landfilled Organics Reduction Parameters and Data Sources.....	55
Table 41	Landfilled Organics Reduction GHG Emission Reduction Calculations	55
Table 42	Compost Procurement Parameters and Data Sources	57
Table 43	Landfilled Organics Reduction GHG Emission Reduction Calculations	58
Table 44	Strategy W: Water GHG Emission Reduction Summary	59
Table 45	Strategy CS: Carbon Sequestration GHG Emission Reduction Summary.....	61
Table 46	Municipal Strategies GHG Emission Reduction Summary	63
Table 47	Adaptation Strategies GHG Emission Reduction Summary	64

1 Introduction

This technical report presents the quantification and substantial evidence that supports the greenhouse gas (GHG) emissions reduction potential of the City of Pinole's **Climate Action and Adaptation Plan** (CAAP). This report also supports the CAAP's classification as a qualified GHG reduction plan. The CAAP is Pinole's plan to reduce GHG emissions and address climate change. It includes Mitigation Measures to reduce GHG emissions within the community and Adaptation Measures to adapt the community to climate change. This report focuses on Mitigation Measures and their associated Actions. The Mitigation **Measures** include numeric targets to reduce GHG emissions and the **Actions** under each Mitigation Measure represent the steps the City will implement through 2045 to reduce GHG emissions.

Section 15183.5(b)(1) of the California Environmental Quality Act (CEQA) guidelines establishes several criteria which a plan must meet to be considered a qualified GHG reduction plan and allow for programmatic CEQA streamlining of project GHG emissions. This report details the evidence substantiating the GHG emissions reductions associated with the CAAP's Mitigation Measures pursuant to Subsection (D) which requires measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified GHG emissions level. This report demonstrates the Mitigation Measures in the CAAP provide the GHG emission reductions necessary to meet the City's 2030 GHG emission reduction target, which aligns with the State's GHG emission reduction goal established by Senate Bill (SB) 32 and make substantial progress towards the City's 2045 target which aligns with the State's goal established by Assembly Bill (AB) 1279.¹

Mechanisms to monitor the implementation of the CAAP and its progress toward achieving the City's GHG emission reduction targets are included in the CAAP, as required in CEQA Guidelines Section 15183.5(b)(e). If, based on the tracking of community GHG emissions, the City is not on track to reach the 2030 GHG emission reductions specified in this report, the CAAP as a whole or specific Mitigation Measures and Actions will be amended. Based on these amendments, a CAAP Update will be prepared that includes altered or additional Measures and Actions, with evidence that their implementation can achieve the City's 2030 GHG emission reduction target and make substantial progress towards the City's 2045 target.

1.1 GHG Emission Reduction Targets

The City of Pinole's GHG emission reduction targets align with California's goal to reduce GHG emissions 40 percent below 1990 levels by 2030 (SB 32) and California's goal to achieve carbon neutrality by 2045 (AB 1279) defined as reducing GHG emissions at least 85 percent below 1990 levels and removing or sequestering the remaining GHG emissions.

Pinole's short- and long-term GHG emission reduction targets are:

- Reduce GHG emissions 40 percent below 1990 levels by 2030; and
- Achieve carbon neutrality by 2045.

¹ SB 32 established the State goal to reduce GHG emission 40 percent below 1990 levels by 2030. AB 1279 established the State goal to achieve carbon neutrality by 2045. The State defines carbon neutrality as net zero carbon emissions, which is achieved by reducing GHG emissions at least 85 percent below 1990 levels and removing the remaining emissions.

1.2 Mitigation Measures and Actions Organization

As part of the CAAP process, the City of Pinole has developed a comprehensive set of Mitigation Measures and Actions to reduce communitywide GHG emissions to achieve the City's 2030 GHG emission reduction target and make substantial progress towards the City's 2045 target. The Mitigation Measures are organized around a set of six **Strategies** to reduce GHG emissions. Each Measure is then supported by a set of Actions. The structure of the Mitigation Strategies, Measures, and Actions are as follows:

- **Strategies:** Strategies describe an overall approach for reducing GHG emissions.
- **Measures:** Measures are long-range policies that the City has established to ultimately reduce GHG emissions in line with the State.
- **Actions:** Actions are the discrete steps the City will take to achieve the established Measures.

The Measures and Actions can be either quantitative or supportive, defined as follows:

- **Quantitative:** Quantitative Measures result in direct and measurable GHG emissions reductions when their Actions, backed by substantial evidence, are implemented. GHG emissions reductions from these Measures and Actions are justified by case studies, scientific articles, calculations, and other third-party substantial evidence that establish the effectiveness of the reduction Actions. Quantitative Measures can be summed to quantify how the City will meet its 2030 GHG emission reduction target and demonstrate progress towards the 2045 target.
- **Supportive:** Supportive Measures may also be quantifiable and have substantial evidence to support their overall contribution to GHG emission reductions. However, due to one of several factors – including a low GHG emission reduction benefit, indirect GHG emission reduction benefit, or potential for double-counting– they have not been quantified and do not contribute directly to achieving and making progress towards the City's GHG emission reduction targets. Despite not being quantified, supportive Measures are nevertheless critical to the overall success of the CAAP and provide support so that the quantitative Measures will be successfully implemented.

This report identifies both the quantitative and supportive Mitigation Measures and provides a complete description of their contribution to achieving the City of Pinole's 2030 GHG emission reduction target and making substantial progress towards the City's 2045 target. This report, however, only details the quantitative Actions that enable each Mitigation Measure. The supportive Actions are excluded from this report because they do not contribute directly to achieving and making progress towards the City's GHG emission reduction targets. Detail on these supportive Actions can be found in the CAAP. Furthermore, this report presents the Adaptation Measures of the CAAP, but excludes detail in these Measures because they are supportive. Details on these supportive Adaptation Measures can be found in the CAAP.

1.3 GHG Emissions Reductions

Table 1 summarizes the Mitigation Measures and the GHG emission reductions they would achieve in 2030 and 2045 upon the implementation of their Actions.

Table 1 Pinole CAAP GHG Emission Reduction Summary by Mitigation Measure

Measure ID	Measure Text	2030 GHG Emission Reduction Potential (MT CO ₂ e)	2045 GHG Emission Reduction Potential (MT CO ₂ e)
Strategy CR: Cornerstone to Climate Action and Adaptation Planning			
Measure CR-1	Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.	Supportive	Supportive
Strategy BE: Building Energy			
Measure BE-1	Electrify 100% of new construction in the City in 2024.	1,509	5,962
Measure BE-2	Electrify existing residential buildings to reduce natural gas consumption by 26% by 2030 and 100% by 2045.	4,778	19,273
Measure BE-3	Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 18% by 2030 and 100% by 2045.	997	5,868
Measure BE-4	Work with MCE to provide carbon-free and renewable energy to at least 95% of the community by 2030.	3,200	0
Measure BE-5	Increase generation and storage of local community-scale renewable energy.	Supportive	Supportive
Strategy TR: Transportation			
Measure TR-1	Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.	107	256
Measure TR-2	Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.	256	559
Measure TR-3	Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.	Supportive	Supportive
Measure TR-4	Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.	3,832	13,839
Measure TR-5	Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.	2,303	8,186
Measure TR-6	Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.	1,245	10,721
Strategy SW: Solid Waste			
Measure SW-1	By 2025, reduce landfilled organic waste by 75% and support food insecure residents by diverting 20% of currently disposed edible food to food recovery organizations to meet and or exceed SB 1383 requirements.	2,934	3,570

Measure ID	Measure Text	2030 GHG Emission Reduction Potential (MT CO ₂ e)	2045 GHG Emission Reduction Potential (MT CO ₂ e)
Measure SW-2	Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.	Supportive	Supportive
Measure SW-3	Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.	Supportive	Supportive
Measure SW-4	Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.	Supportive	Supportive
Measure SW-5	Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost) by 2030.	425	513
Strategy WW: Water and Wastewater			
Measure W-1	Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.	Supportive	Supportive
Measure W-2	Increase the community's use, supply, and access to recycled water.	Supportive	Supportive
Strategy CS: Carbon Sequestration			
Measure CS-1	Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan.	Supportive	Supportive
Measure CS-2	Increase nature-based and technological carbon sequestration opportunities in Pinole.	Supportive	Supportive

Together, the Mitigation Measures and Actions in the CAAP provide Pinole with the GHG emission reductions necessary to achieve Pinole's 2030 GHG emission reduction target (see Table 2). However, the 2045 GHG emissions reductions quantified in this report are not currently enough to meet the City's 2045 target of carbon neutrality. Achieving carbon neutrality will require new technologies, new State regulations, and additional Measures and Actions that incorporate lessons learned from implementing the Measures and Actions of this CAAP. Future CAAP updates will account for these emerging technologies and new State regulations and include new Measures and Actions that Pinole will implement to close the remaining gap to achieve carbon neutrality.

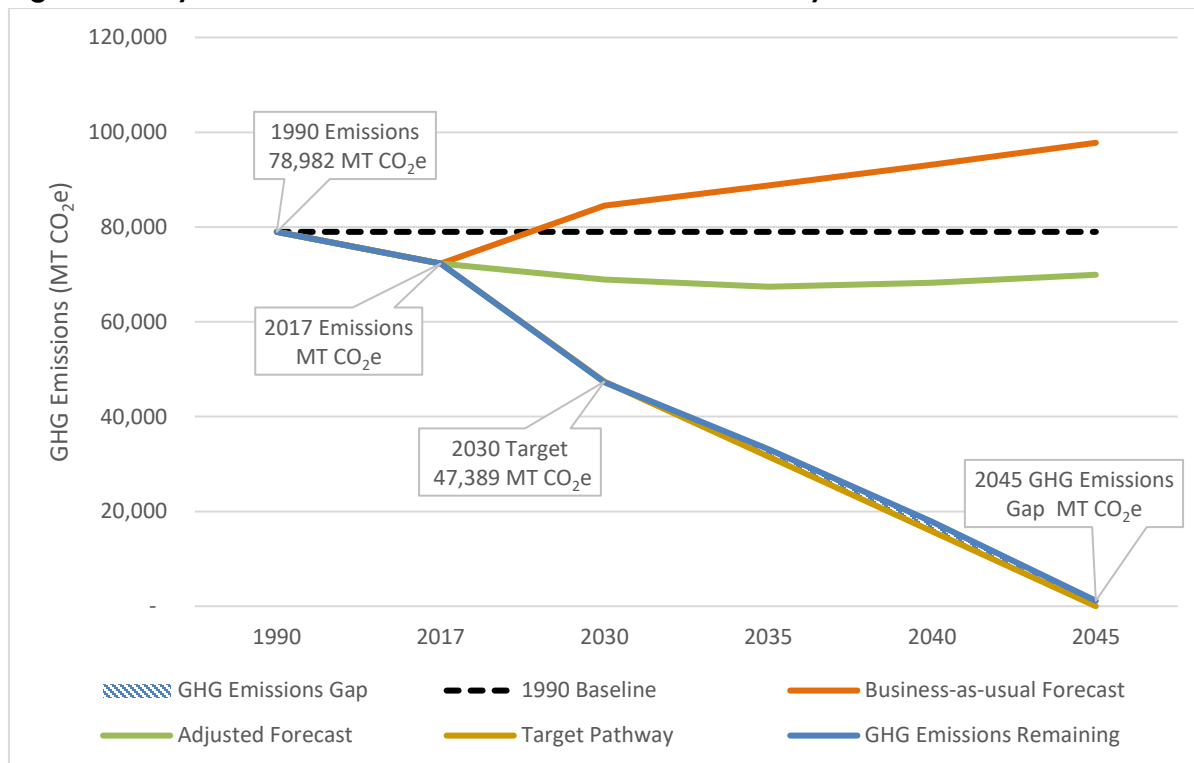
Table 2 City of Pinole's GHG Emissions Reductions Pathway

GHG Emission Forecast or Reduction Target	2030 GHG Emissions (MT CO ₂ e)	2045 GHG Emissions (MT CO ₂ e)
Business-as-usual Forecast	84,515	97,772
Adjusted Forecast	68,902	69,901
GHG Emissions Reductions (from full implementation of Measures)	(21,585)	(68,746)
GHG Emissions Remaining (after Measure reductions)	47,316	1,155
GHG Emission Reduction Target	47,389	0
GHG Emissions Gap (between remaining GHG emissions and target)	(73)	1,155
Target Anticipated to be Met?	Yes	No

Notes: Numeric numbers donated in parathesis represent negative numbers.

Figure 1 shows the City's GHG emission reduction targets in relation to the City's GHG emissions after implementation of the Mitigation Measures and Actions included in the CAAP. A complete description of each Measure and the quantitative Actions is included in the remainder of the report.

Figure 1 City of Pinole's GHG Emissions Reductions Pathway



2 Strategy CR: Cornerstone to Climate Action and Adaption Planning

The City of Pinole’s Cornerstone to Climate Action and Adaptation Planning Strategy focuses on leveraging the CAAP’s work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs. While this Strategy will not produce direct GHG emission reductions, it will create community support for the CAAP and enable implementation of the CAAP with a talented and diverse workforce. Based on this approach, the CAAP’s Cornerstone to Climate Action and Adaptation Planning Strategy consists of the following Measure presented in Table 3. The table also indicates the Measure is supportive.

Table 3 Strategy CR: Cornerstone to Climate Action and Adaption Planning GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy CR: Cornerstone to Climate Action and Adaption Planning			
CR-1	Leverage the CAAP’s work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.	Supportive	Supportive
Total		0	0

3 Strategy BE: Building Energy

The City of Pinole’s Building Energy Strategy focuses on electrifying residential and commercial buildings to leverage the GHG reduction benefits associated with carbon-free and renewable electricity provided by Marin Clean Energy (MCE) along with the generation and storage of local community-scale renewable energy.² Electrifying Pinole’s building stock consists of transitioning natural gas stationary equipment—the equipment that heats the water we use and heats and cools the spaces we live and work in—to efficient electric alternatives. When coupled with renewable and zero-carbon electricity, all-electric buildings eliminate GHG emissions from natural gas consumption and transition to a zero-emission operational energy footprint. This characteristic is why Pinole will support MCE in providing carbon-free and renewable energy to the whole community. Pinole will also work to increase the generation and storage of community-scale renewable energy in the community to help meet the additional electricity demand resulting from building electrification. Based on this approach, the CAAP’s Building Energy Strategy consists of the Measures presented in Table 4. The table also indicates which Measures are quantitative and which Measures are supportive. The following subsections detail the substantial evidence and calculation methodologies of the quantitative Measures and the role of the supportive Measures.

Table 4 Strategy BE: Building Energy GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy BE: Building Energy			
BE-1	Electrify 100% of new construction in the City by 2024.	1,509	5,962
BE-2	Electrify existing residential buildings to reduce natural gas consumption by 31% by 2030 and 100% by 2045.	4,778	19,273
BE-3	Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.	997	5,868
BE-4	Work with MCE to provide 100% carbon-free and renewable energy to at least 95% of the community by 2030.	3,200	0
BE-5	Increase generation and storage of local community-scale renewable energy by exploring new advancements in the clean energy sector.	Supportive	Supportive
Total		10,484	31,102

² Community-scale renewable energy provides electricity for community or commercial consumption rather than for a single home as residential rooftop solar does.

BE-1: Electrify 100% of new construction in the City in 2024.

Measure BE-1 commits the City to electrify new construction in the community. The primary Actions that enable this Measure are **Action BE-1a** which directs the City to adopt a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction for residential, commercial, and industrial buildings.

The City of Pinole fully intends to prohibit new natural gas developments in the community. However, the U.S. Court of Appeals for the Ninth Circuit's decision to overturn the City of Berkeley's natural gas regulation—the ordinance that prohibited the installation of natural gas piping within newly constructed buildings—limits the City of Pinole's ability to establish regulations to ban new natural gas construction.³ Through Action BE-1a, the City will employ the most stringent regulation currently available to electrify all new construction in the community. Action BE-1a's ordinance will be designed to either strongly encourage electrification of new construction as a single margin energy score or specifically restrict the use of natural gas in new construction.

As a single margin source energy score, the ordinance would establish a low Energy Design Rating (EDR)—a scoring metric that determines a building's compliance with California's Building Energy Efficiency Standards—that new residential and commercial buildings in Pinole would need to meet. The EDR would be set in a way to make electrification the easiest pathway to meet the standard. However, since the ordinance does not ban natural gas infrastructure outright, this ordinance may permit some new construction to be built with natural gas. These exceptions are, however, expected to be minimal because of the cost effectiveness of new building electrification in Pinole and the available incentives that will help continue the natural growth in electric space and water heater installations seen in California over the past decade. According to a recent market study, electric space heaters have grown from a five percent market share in 2009 to a 20 percent market share in 2019. Likewise, electric water heaters have grown from a six percent market share in 2009 to an 11 percent market share in 2019.⁴ This natural trend is not only expected to continue through 2030 because all-electric new construction has proven to be cost-effective in Pinole for most all buildings types,⁵ but also be accelerated when coupled with the large amount of funding available for Pinole community members to install electric or heat pump space and water heating appliances. While the total amount of funding available will change with sunset dates and budget cycles, the currently available federal (i.e., High Efficiency Electric Home Rebate [HEEHRA], Homeowner Managing Energy Savings [HOMES] Rebate, Inflation Reduction Act), State (i.e., TEHC Clean California), regional (i.e., Bay Area Regional Energy Network [BayREN] Home+ Program, Bay Area Multifamily Building Enhancements [BAMBE] Program), and local (i.e., MCE's rebates) funding makes it so that low- and middle-income residents in Pinole can install electric or heat pump space and water heaters at no additional cost compared to gas space and water heaters. In some cases, such customers will even be able to install the heat pump water heaters for free.⁶

For those minimal cases where construction with natural gas may still occur under a single margin source energy score despite cost effectiveness and incentives, this Measure relies on CEQA

³ CRA V. City of Berkeley, No. 21-16278. Accessed at: <https://law.justia.com/cases/federal/appellate-courts/ca9/21-16278/21-16278-2023-04-17.html>.

⁴ Opinion Dynamics. California Heat Pump Residential Market Characterization and Baseline Study (2022). Accessed at: <https://pda.energydataweb.com/#!/documents/2625/view>.

⁵ According to the California Energy Codes and Standards' Cost Effectiveness Explorer, all-electric construction is cost effective for all building types in Pinole except accessory dwelling units (ADUs). California Energy Codes and Standards. Cost Effectiveness Explorer (2024). Accessed at: https://explorer.localenergycodes.com/jurisdiction/pinole-city/study-results/3-PGE?only_study_type=new-buildings.

⁶ Rincon Consultants, Inc. Installation Costs for Zero-NOx Space and Water Heating Appliances (2024).

mechanisms to require such buildings to mitigate the GHG emissions from natural gas construction. This mitigation can be assumed because the CAAP assumes 100 percent of new construction will be all-electric and incorporates this assumption into Pinole's CEQA GHG Emissions Thresholds and CEQA GHG Emissions Analysis Compliance Checklist. This incorporation means new construction that utilizes natural gas will need to identify other ways to mitigate GHG emissions to meet the GHG emission threshold of an all-electric building. Moreover, Action BE-1a also allows Pinole to adopt a more stringent ordinance that effectively bans new natural gas construction. This option may be feasible as more jurisdictions across the State explore pathways for all-electric new construction after the Berkeley case. Without exemptions, this option would also allow for 100 percent all-electric new construction.

Thus, the GHG emission reductions from this Measure are based on the forecasted residential and commercial building growth and the assumption that 100 percent of new buildings will be all-electric. While Action BE-1a's ordinance shall apply to industrial buildings as well, the GHG emission reduction calculations of this Measure exclude natural gas use from these industrial buildings because they were excluded from the GHG forecast.⁷ Table 5 shows the parameters and data sources that support these electrification ordinance GHG emission reductions and Table 6 shows the calculations as outlined in Equations 1 through 1.2.

All-electric New Construction Equations

Equation 1 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 1.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} - Fuel_{NG,imp,y,i} * Coverage_{y,i}$

Equation 1.2 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 5 All-electric New Construction Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 1				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Inventory & Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential or Nonresidential	N/A	N/A

⁷ Industrial natural gas usage was excluded from the GHG forecast because it is regulated by the California Air Resources Board (CARB) and subject to GHG emission reduction requirements under California's Cap-and-Trade Program.

Variable	Definition	Value	Unit	Data Source
Equation 1.1				
$Fuel_{NG}$	Forecasted natural gas consumption	See calculation table	therms	Forecast
$Fuel_{NG,imp}$	Forecasted natural gas in implementation year	See calculation table	therms	Calculated
$Coverage_{y,i}$	Percent of buildings ordinance applies to	100%	percentage	Assumed due to electric appliance market trends, cost-effectiveness, incentives, and inclusion of all-electric assumption in CEQA documents.
imp.y	Ordinance implementation year	See calculation table	year	N/A
Equation 1.2				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ¹
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ²

¹ Metric Conversions. Therms (US) to Kilowatt-hours.

² European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018). Accessed at: https://www.ehpa.org/wp-content/uploads/2022/10/White_Paper_Heat_pumps-1.pdf.

Table 6 All-electric New Construction GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 1.1					
$Fuel_{NG}$	Forecasted natural gas consumption	therms	Residential	3,107,356	3,540,617
			Nonresidential	980,365	1,221,620
$imp.y$	Ordinance implementation year	year	Residential	2024	2024
			Nonresidential	2024	2024
$Fuel_{NG,imp}$	Forecasted natural gas in implementation year	therms	Residential	2,950,997	2,950,997
			Nonresidential	898,433	898,433
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	therms	Residential	156,359	589,620
			Nonresidential	81,932	323,187
Equation 1.2					
$Elec\ Converted$	Electricity usage from conversion	kWh	Residential	1,527,102	5,758,624
			Nonresidential	800,199	3,156,463
Equation 1					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential	0.000019	0.00
			Nonresidential	0.000023	0.00
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	MT CO ₂ e	Residential	992	3,851
			Nonresidential	517	2,111

BE-2: Electrify existing residential buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.

Measure BE-2 puts Pinole on a path to reduce residential natural gas consumption 26 percent by 2030 and 100 percent by 2045 to reduce GHG emissions. The primary Actions that enable this level of adoption include:

- **Action BE-2a** which commits the City to adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings;
- **Action BE-2b** which commits the City to include major renovations in the all-electric new building requirements in 2024—including residential buildings;
- **Action BE-2j** which directs the City to enforce reach code or ordinance compliance through a comprehensive permitting compliance program; and
- **Action BE-2m** which commits the City to adopt an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.

These Actions will work with the Bay Area Air Quality Management District's (BAAQMD) zero-nitrogen oxides (zero-NOx) rules to require the electrification of existing residential water heating and space heating and cooling appliances in Pinole and reduce the associated GHG emissions from natural gas consumption.

First, Action BE-2b expands Action BE-1a's new construction ordinance to apply to major renovations. Major renovations will be defined by this ordinance as renovation projects that affect over 50 percent of the building, add an additional 50 percent of gross floor space to the building, or value more than 50 percent of the assessed value of the property at time of application submittal. These three definitions will be utilized to capture more projects under the ordinance. As shown in Table 7, over 68 percent of Pinole's housing stock was built during the 1950s to 1970s. This means the majority of the houses in the community are between 45 to 75 years old, having reached or soon reaching the point of needing major renovations since the average lifespan of a house is 50 to 63 years.⁸ This quantification thus assumes three percent of homes will need major renovations each year through 2045 so that a conservative 17 percent receive major renovations cumulatively by 2030 and 47 percent by 2045.

⁸ MIT Architecture. Architectural Longevity: What Determines a Building's Lifespan? (2023). Accessed at: <https://architecture.mit.edu/news/architectural-longevity-what-determines-buildings-lifespan#:~:text=Courtesy%20of%20the%20artists.&text=The%20average%20lifespan%20of%20a,years%2C%20from%20construction%20to%20demolition.>

Table 7 Pinole's Housing Stock Age

Year Built	Age (years)	Total Houses	Share of Houses
Built 2014 or later	10 or younger	20	0.3%
Built 2010 to 2013	11 to 14	18	0.3%
Built 2000 to 2009	15 to 24	194	2.9%
Built 1990 to 1999	25 to 34	545	8.0%
Built 1980 to 1989	35 to 44	1,069	15.7%
Built 1970 to 1979	45 to 54	1,373	20.2%
Built 1960 to 1969	55 to 64	1,813	26.7%
Built 1950 to 1959	65 to 74	1,397	20.6%
Built 1940 to 1949	75 to 84	167	2.5%
Built 1939 or earlier	85 or older	196	2.9%
Total		6,792	100%

The annual major renovation percentage (i.e., three percent) is applied to a decreasing existing building housing stock (i.e., homes receiving major renovations the previous year are removed from the existing housing stock) to employ diminishing returns in the quantification. Due to the available incentives, ordinance requirements, and the age of existing appliances, the quantification assumes all major renovations will replace existing natural gas appliances with electric alternatives, eliminating the natural gas usage of the renovated building. The quantification does, however, conservatively assume a portion of major renovations (i.e., 12 percent) will not conform with the ordinance each year to electrify, as supported by Action BE-2j.

Action BE-2j will help Pinole enforce this ordinance through a permit compliance program. Although permits are required for many energy efficiency improvements (e.g., water heaters, insulation, HVAC systems, duct replacement) many jurisdictions face permit evasion issues, with permitted HVAC systems only accounting for eight to about 30 percent of total HVAC system installations.^{9, 10} This trend in permit evasion means jurisdictions face issues determining compliance with building ordinances and codes. Strategies that have proven effective at improving permit compliance in various states and local jurisdictions include streamlining the compliance process and providing advanced training for enforcement staff—actions Pinole's permit compliance program will implement to enforce the major renovation electrification ordinance.¹¹ Pinole will monitor permit numbers to estimate compliance rates and adjust the permit compliance program strategies as needed to achieve an 88 percent compliance rate with the ordinance.

This Action will result in a 15 percent reduction in existing residential natural gas usage by 2030 and 43 percent by 2045. Table 8 shows the parameters and data sources that support this Action's GHG emission reductions and Table 9 shows the calculations as outlined in Equations 2 through 2.2.

⁹ Alvarez, Emily and Mast, Bruce. BayREN Codes & Standards Program. Local Government Policy Calculator for Existing Single-Family Buildings – User Guide (2021). Accessed at: https://www.bayrencodes.org/wp-content/uploads/2021/11/BayREN-Policy-Calculator-User-Guide_10.29.2021.pdf.

¹⁰ California Public Utilities Commission (CPUC). Final Report: 2014-16 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I – Report (2017). Accessed at: http://www.calmac.org/publications/HVAC_WO6_FINAL_REPORT_VolumeI_22Sept2017.pdf.

¹¹ Meres, Ryan et al. American Council for an Energy-Efficient Economy (ACEEE). Successful Strategies for Improving Compliance with Building Energy Codes (2012). Accessed at: <https://www.aceee.org/files/proceedings/2012/data/papers/0193-000112.pdf>.

All-electric Residential Major Renovation Equations

Equation 2 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 2.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * (1 - MR_i * (1 - NCR_i))^{(y - imp.y)}$

Equation 2.2 $EleC_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 8 All-electric Residential Major Renovation Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 2				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Inventory & Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential	N/A	N/A
Equation 2.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification ordinance (Measure BE-1)	See calculation table	therms	Forecast
MR	Annual percentage of residential homes receiving major renovations	3%	percentage	Estimated based on Pinole house stock age (Table 7) and average lifespan of a house. ¹
NCR	Ordinance noncompliance rate	12%	percentage	Estimate based on permit evasion rates and strategies to increase building code compliance. ^{2, 3, 4}
$imp.y$	Ordinance implementation year	See calculation table	year	N/A
Equation 2.2				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions. ⁵
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁶

¹ MIT Architecture. Architectural Longevity: What Determines a Building's Lifespan? (2023).

² Alvarez, Emily and Mast, Bruce. BayREN Codes & Standards Program. Local Government Policy Calculator for Existing Single-Family Buildings – User Guide (2021).

³ California Public Utilities Commission (CPUC). Final Report: 2014-16 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I – Report (2017).

⁴ Meres, Ryan et al. American Council for an Energy-Efficient Economy (ACEEE). Successful Strategies for Improving Compliance with Building Energy Codes (2012).

⁵ Metric Conversions. Therms (US) to Kilowatt-hours.

⁶ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018). Accessed at: https://www.ehpa.org/wp-content/uploads/2022/10/White_Paper_Heat_pumps-1.pdf.

Table 9 All-electric Residential Major Renovation GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 2.1					
<i>Fuel_{NG}</i>	Forecasted natural gas consumption after new building electrification ordinance (Measure BE-1)	therms	Residential	2,950,997	2,950,997
<i>imp.y</i>	Ordinance implementation year	year	Residential	2024	2024
<i>Fuel Avoided_{NG}</i>	Natural gas consumption avoided	therms	Residential	437,652	1,268,476
Equation 2.2					
<i>Elec Converted</i>	Electricity usage from conversion	kWh	Residential	4,274,399	12,388,778
Equation 2					
<i>EF_{elec}</i>	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential	0.000019	0.00
CO₂e Reduction_{NG}	Natural gas GHG emission reductions	MT CO₂e	Residential	2,777	8,284

Second, Action BE-2a's two-way central air conditioning ordinance will work to require the electrification of central air conditioning replacements in Pinole homes after 2024. The only technologies currently available that provide two-way central air conditioning are heat pumps. In Pinole's climate zone, heat pumps are a cost-effective and energy efficient way to provide both heating and cooling in homes due to their lower operating cost (enabled by their 300 to 400 percent energy efficiency) and their ability to replace the need for separate appliances (i.e., air conditioning unit and furnace).^{12,13} These heat pumps will serve to replace gas air conditioning units and gas furnaces with electric alternatives.

This ordinance will be enforced through the same permit compliance program as the major renovation ordinance (Action BE-2j), employing permit streamlining and staff training to improve permit compliance. Thus, this quantification assumes the same compliance rate (i.e., 88 percent) for the two-way central air conditioning ordinance. The quantification applies this compliance rate to

¹² According to the California Energy Codes and Standards' Cost Effectiveness Explorer, all-electric construction is cost effective for all building types in Pinole except accessory dwelling units (ADUs). California Energy Codes and Standards. Cost Effectiveness Explorer (2024).

¹³ Redwood Energy. A Pocket Guide to All-Electric Retrofits of Commercial Buildings (2022). Accessed at: https://assets-global.website-files.com/62b110a14473cb7777a50d28/6377e7c7fd6f8cc30f88afa7_Redwood%20Energy-s%20Pocket%20Guide%20to%20All-Electric%20Commercial%20Retrofits.pdf.

the percent of central air conditioning units reaching the end of their useful life to estimate the percent of electric or heat pump replacements that will occur each year. The percent of replacements is then paired with the share of residential natural gas consumption those central air conditioning units and related space heating units account for in the average California house to estimate the overall reduction in existing residential natural gas consumption from this ordinance.

This Action will reduce existing residential natural gas consumption three percent by 2030 and seven percent by 2045. The quantification is made under the conservative assumption that the two-way AC ordinance would be implemented after the major renovation ordinance with diminishing returns rather than have an aggregated effect on residential natural gas. Table 10 shows the parameters and data sources that support the residential two-way central air conditioning ordinance GHG emission reductions and Table 11 shows the calculations as outlined in Equations 3 through 3.4.

Two-Way Residential Air Conditioning Ordinance Equations

Equation 3 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 3.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * Reduction_{NG,y,i}$

Equation 3.2 $Reduction_{NG,y,i} = (EOL_{NG,HVAC,y,i} * Fuel\ Share_{NG,HVAC,i})$

Equation 3.3 $EOL_{NG,HVAC,y,i} = 1 / LSP_{HVAC,i} * (y - imp.y_i) * CAC_i * (1 - NCR_i)$

Equation 3.4 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 10 Two-Way Residential Air Conditioning Ordinance Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 3				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential	N/A	N/A
Equation 3.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovations	See calculation table	therms	Forecast
$Reduction_{NG}$	Natural gas reduction percent	See calculation table	percentage	N/A

Variable	Definition	Value	Unit	Data Source
Equation 3.2				
$EOL_{NG,HVAC}$	Percent of HVAC units reaching end-of-life	See calculation table	percentage	N/A
$Fuel\ Share_{NG,HVAC}$	Percent of residential natural gas consumption from space heating/cooling	39%	percentage	Hopkins, Asa S., PhD et al. Decarbonization of Heating Energy Use in California Buildings (2018) ¹

Variable	Definition	Value	Unit	Data Source
Equation 3.3				
LSP_{HVAC}	Average residential HVAC unit lifespan	21.5	years	U.S. Energy Information Administration. Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023) ²
$imp.y$	Ordinance implementation year	See calculation table	year	N/A
CAC	Share of homes with central air conditioning	34%	percentage	Calculated from the U.S. Census Bureau's 2021 American Housing Survey for San Francisco. ³
NCR	Ordinance noncompliance rate	12%	percentage	Estimate based on permit evasion rates and strategies to increase building code compliance. ^{4, 5, 6}
Equation 3.4				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ⁷
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁸

¹ Hopkins, Asa S. et al. Decarbonization of Heating Energy Use in California Buildings (2018). Accessed at: <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>.

² US Energy Information Administration (EIA). Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023). Accessed at: <https://www.eia.gov/analysis/studies/buildings/equipcosts/>.

³ U.S. Census Bureau. American Housing Survey. 2021 San Francisco — Heating, Air Conditioning, and Appliances — All Occupied Units. Accessed at: https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=41860&s_year=2021&s_tablename=TABLE3&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1.

⁴ Alvarez, Emily and Mast, Bruce. BayREN Codes & Standards Program. Local Government Policy Calculator for Existing Single-Family Buildings — User Guide (2021).

⁵ California Public Utilities Commission (CPUC). Final Report: 2014-16 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I — Report (2017).

⁶ Meres, Ryan et al. American Council for an Energy-Efficient Economy (ACEEE). Successful Strategies for Improving Compliance with Building Energy Codes (2012).

⁷ Metric Conversions. Therms (US) to Kilowatt-hours.

⁸ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).

Table 11 Two-Way Residential Air Conditioning Ordinance GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 3.1					
$Fuel_{NG,y,i}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovation electrification (Action BE-2b)	therms	Residential	2,513,346	1,682,522
$Fuel\ Avoided_{NG,y,i}$	Natural gas consumption avoided	therms	Residential	97,916	196,645
Equations 3.2					
$Reduction_{NG}$	Natural gas reduction percent	percentage	Residential	4%	12%

Equations 3.3					
$EOL_{NG,HVAC}$	Percent of HVAC units reaching end-of-life since ordinance implementation	percentage	Residential	10%	30%
$imp.y$	Ordinance implementation year	year	Residential	2024	2024
Equation 3.4					
$Elec\ Converted$	Electricity usage from conversion	kWh	Residential	956,311	1,920,564
Equation 3					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential	0.000019	0.00
$CO_2e\ Reduction_{NG,y,i}$	Natural gas GHG emission reductions	MT CO ₂ e	Residential	621	1,284

Additionally, Pinole is under BAAQMD’s jurisdiction and will be affected by the amendments adopted for BAAQMD’s Rule 9-6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters. These amendments, referred to herein as ‘zero-NOx rules,’ govern point of sale emission standards for water heating systems starting January 1, 2027. The only technologies currently available that meet the amended rule are electric water heating systems. Although there are a range of electric alternatives (e.g. electric resistance space heating), heat pump water heaters are the most cost-effective option on the market due to their significantly higher efficiency (300 to 400 percent) and resulting lower operating costs. This Measure’s quantification assumes Pinole residents will replace existing gas water heaters with heat pump water heaters at the end of the heaters’ useful life. The updated rule applies to small water heaters first, which most homes have.¹⁴ The quantification assumes all residential buildings have small water heaters and will begin switching to electric replacements in 2027 with full compliance.

This rule will reduce existing residential natural gas consumption by seven percent by 2030 and 21 percent by 2045. The quantification is made under the conservative assumption that the zero-NOx rules would be implemented after the major renovation ordinance with diminishing returns rather than have an aggregated effect on residential natural gas. Table 12 shows the parameters and data sources that support BAAQMD’s zero-NOx rule GHG emission reductions and Table 13 shows the calculations as outlined in Equations 4 through 4.4.

BAAQMD Zero-NOx Rule for Residential Water Heating Equations

Equation 4	$CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$
Equation 4.1	$Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * Reduction_{NG,y,i}$
Equation 4.2	$Reduction_{NG,y,i} = (EOL_{NG,wh,y,i} * Fuel\ Share_{NG,wh,y,i})$
Equation 4.3	$EOL_{NG,wh,y,i} = 1 / LSP_{wh,y,i} * (y - imp.y_i) * (1 - NCR_i)$
Equation 4.4	$Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

¹⁴ Rule 9-6 affects the future sale of NOx emitting water heaters and boilers with a rated heat capacity of 75,000 British thermal units per hour or less. This threshold equates to an upper limit of NOx emitting water heaters with a 75-gallon tank capacity. Water heaters of these size are typically found in single-family homes, duplexes, and low-rise multi-family homes. Higher capacity water heaters will be regulated starting January 1, 2031.

Table 12 BAAQMD Zero-NOx Rule for Residential Water Heating Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 4				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential	N/A	N/A
Equation 4.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovations	See calculation table	therms	Forecast
$Reduction_{NG}$	Natural gas reduction percent	See calculation table	percentage	N/A
Equation 4.2				
$EOL_{NG,wh}$	Percent of water heaters reaching end-of-life	See calculation table	percentage	N/A
$Fuel\ Share_{NG,wh}$	Percent of residential natural gas consumption from water heaters	38%	percentage	Hopkins, Asa S., PhD et al. Decarbonization of Heating Energy Use in California Buildings (2018). ¹
Equation 4.3				
LSP_{wh}	Average residential water heater lifespan	13	years	U.S. Energy information Administration. Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023). ²
$imp.y$	Ordinance implementation year	2027	year	Year zero-NOx rule goes into effect for small water heaters.
NCR	Ordinance noncompliance rate	0%	percentage	Full compliance assumed because the zero-NOx rule is a regional rule on the sale of water heaters.
Equation 4.4				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ³
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁴

Variable	Definition	Value	Unit	Data Source
¹ Hopkins, Asa S. et al. Decarbonization of Heating Energy Use in California Buildings (2018).				
² US Energy Information Administration (EIA). Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023).				
³ Metric Conversions. Therms (US) to Kilowatt-hours.				
⁴ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).				

Table 13 BAAQMD Zero-NOx Rule for Residential Water Heating GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 4.1					
$Fuel_{NG,y,i}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovation electrification (Action BE-2b)	therms	Residential	2,513,346	1,682,522
$Fuel\ Avoided_{NG,y,i}$	Natural gas consumption avoided	therms	Residential	217,501	630,946
Equations 4.2					
$Reduction_{NG}$	Natural gas reduction percent	percentage	Residential	9%	38%
Equations 4.3					
$EOL_{NG,wh}$	Percent of water heaters reaching end-of-life since ordinance implementation	percentage	Residential	23%	100%
Equation 4.4					
$Elec\ Converted$	Electricity usage from conversion	kWh	Residential	2,124,260	6,162,236
Equation 4					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential	0.000019	0.00
CO₂e Reduction_{NG,y,i}	Natural gas GHG emission reductions	MT CO₂e	Residential	1,380	4,121

Lastly, Action BE-2j's end-of-flow ordinance will provide the remaining natural gas consumption reductions to achieve a 100 percent reduction in residential natural gas consumption by 2045. The end-of-flow ordinance will set the direction for full residential building electrification in Pinole and require all natural gas lines be decommissioned and capped in existing residential buildings by 2045. The City of Half Moon Bay adopted such an ordinance in 2022.¹⁵

This Action will reduce existing residential natural gas consumption an additional 29 percent in 2045 to achieve 100 percent residential building electrification. Table 14 shows the parameters and data sources that support the end-of-flow ordinance GHG emission reductions and Table 15 shows the calculations as outlined in Equations 5 through 5.2.

End-of-flow Ordinance Equations

Equation 5 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 5.1 $Fuel\ Avoided_{NG,y,i} = \begin{cases} Fuel_{NG,y,i}, & y = imp.\ y \\ 0, & otherwise \end{cases}$

Equation 5.2 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

¹⁵ City of Half Moon Bay. Building Electrification. Accessed at: <https://www.half-moon-bay.ca.us/761/Building-Electrification#:~:text=Required%20all%20new%20building%20construction,in%20existing%20buildings%20by%202045.>

Table 14 End-of-flow Ordinance Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 5				
CO_2e $Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential	N/A	N/A
Equation 5.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification (Measure BE-1), major renovation electrification (Action BE-2b), air conditioning electrification (Action BE-2a), and water heater electrification (BAAQMD Rule 9-6).	See calculation table	therms	Forecast
$imp.y$	Ordinance implementation year	See calculation table	year	N/A
Equation 5.2				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ¹
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ²

¹ Metric Conversions. Therms (US) to Kilowatt-hours.

² European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).

Table 15 End-of-flow Ordinance GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 5.1					
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification (Measure BE-1), major renovation electrification (Action BE-2b), air conditioning electrification (Action BE-2a), and water heater electrification (BAAQMD Rule 9-6).	therms	Residential	2,197,929	854,931
$imp.y$	Ordinance implementation year	year	Residential	2045	2045
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	therms	Residential	0	854,931
Equation 5.2					
$Elec\ Converted$	Electricity usage from conversion	kWh	Residential	0	8,349,830
Equation 5					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential	0.000019	0.00
$CO_2e\ Reduction_{NG,y,i}$	Natural gas GHG emission reductions	MT CO ₂ e	Residential	0	5,584

BE-3: Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 18% by 2030 and 100% by 2045.

Measure BE-3 puts Pinole on a path to reduce commercial and mixed-use natural gas consumption 18 percent by 2030 and 100 percent by 2045 to reduce GHG emissions. The primary Actions that enable this level of adoption include:

- **Action BE-2b** which commits the City to include major renovations in the all-electric new building requirements in 2024—including commercial buildings; and
- **Action BE-3b** which commits the City to adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling by two-way units for commercial and mixed-use buildings and enforcing it through the same permitting compliance program established in BE-2j.

These Actions will work with BAAQMD’s zero-NOx rules to require the electrification of existing commercial water heating and space heating and cooling appliances and reduce the associated GHG emissions from natural gas consumption.

First, Action BE-2b expands Action BE-1a’s new construction ordinance to apply to major renovations—including those for commercial buildings. Major renovations will be defined by this ordinance as renovation projects that affect over 50 percent of the building, add an additional 50 percent of gross floor space to the building, or value more than 50 percent of the assessed value of the property at time of application submittal. These three definitions will be utilized to capture more projects under the ordinance.

Since Pinole is and has been a bedroom community, this Measure assumes Pinole’s nonresidential building stock has a similar history to the residential housing stock. As a bedroom community serving surrounding commercial centers, most of the existing nonresidential buildings in Pinole were developed to support the residents of Pinole. Thus, it is anticipated that the development and age of nonresidential buildings would have followed the same path as residential development so Pinole housing stock data can be utilized for this Measure. As shown in Table 7, over 68 percent of Pinole’s housing stock was built during the 1950s to 1970s. This means the majority of commercial buildings in the community are between 45 to 75 years old, having reached or soon reaching the point of needing major renovations since the average lifespan of a commercial building is 50 to 60 years.¹⁶ This quantification thus assumes three percent of commercial buildings will need major renovations each year through 2045 so that a conservative 17 percent receive major renovations cumulatively by 2030 and 47 percent by 2045.

The annual major renovation percentage (i.e., three percent) is applied to a decreasing existing building stock (i.e., buildings receiving major renovations the previous year are removed from the existing building stock) to employ diminishing returns in the quantification. The quantification assumes all major renovations will replace existing natural gas appliances with electric alternatives, eliminating the natural gas usage of the renovated building. The quantification does, however, conservatively assume a portion of major renovations (i.e., 12 percent) will not conform with the ordinance each year to electrify. The ordinance will be enforced through the same permit compliance program as the residential ordinance (Action BE-2j), employing permit streamlining and staff training to improve permit compliance. As such, this quantification assumes the same

¹⁶ BCI Construction. Which Factors Determine the Lifespan of a Building? (2021). Accessed at: <https://bciconstruction.us/which-factors-determine-the-lifespan-of-a-building/>.

compliance rate as the residential ordinance (i.e., 88 percent) for the commercial and mixed-use ordinance.

This Action will result in a 15 percent reduction in existing commercial and mixed-use natural gas usage by 2030 and 43 percent by 2045. Table 16 shows the parameters and data sources that support this Action's GHG emission reductions and Table 17 shows the calculations as outlined in Equations 6 through 6.2.

All-electric Nonresidential Major Renovation Equations

Equation 6 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 6.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * (1 - MR_i * (1 - NCR_i))^{(y-imp.y)}$

Equation 6.2 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 16 All-electric Nonresidential Major Renovation Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 6				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Inventory & Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Nonresidential	N/A	N/A
Equation 6.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification ordinance (Measure BE-1)	See calculation table	therms	Forecast
MR_i	Annual percentage of nonresidential buildings receiving major renovations	3%	percentage	Estimated based on age of Pinole's building stock (Table 7) and average lifespan of commercial buildings. ¹
NCR	Ordinance noncompliance rate	12%	percentage	Estimate based on permit evasion rates and strategies to increase building code compliance. ^{2, 3, 4}

Variable	Definition	Value	Unit	Data Source
imp.y	Ordinance implementation year	See calculation table	year	N/A
Equation 6.2				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ⁵
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁶

¹ BCI Construction. Which Factors Determine the Lifespan of a Building? (2021).

² Alvarez, Emily and Mast, Bruce. BayREN Codes & Standards Program. Local Government Policy Calculator for Existing Single-Family Buildings – User Guide (2021).

³ California Public Utilities Commission (CPUC). Final Report: 2014-16 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I – Report (2017).

⁴ Meres, Ryan et al. American Council for an Energy-Efficient Economy (ACEEE). Successful Strategies for Improving Compliance with Building Energy Codes (2012).

⁵ Metric Conversions. Therms (US) to Kilowatt-hours.

⁶ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).

Table 17 All-electric Nonresidential Major Renovation GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 6.1					
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification ordinance (Measure BE-1)	therms	Nonresidential	898,433	898,433
imp.y	Ordinance implementation year	year	Nonresidential	2024	2024
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	therms	Nonresidential	133,243	386,188
Equation 6.2					
$Elec\ Converted$	Electricity usage from conversion	kWh	Nonresidential	1,301,344	3,771,772
Equation 6					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Nonresidential	0.000023	0.00
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	MT CO ₂ e	Nonresidential	2,028	2,522

Second, Action BE-3b's two-way central air conditioning ordinance will work to require the electrification of central air conditioning replacements in Pinole commercial and mixed-use buildings after 2024. As for residential buildings, heat pumps are the only technology currently available that provide cost-effective and energy efficient two-way central air conditioning.¹⁷ These heat pumps will serve to replace gas air conditioning units and gas furnaces with electric alternatives.

This ordinance will be enforced through the same permit compliance program as the residential ordinance (Action BE-2j), employing permit streamlining and staff training to improve permit compliance. Thus, this quantification assumes the same compliance rate (i.e., 88 percent) for the commercial and mixed-use ordinance. The quantification applies this compliance rate to the percent

¹⁷ Rincon Consultants, Inc. Installation Costs for Zero-NOx Space and Water Heating Appliances (2024).

of central air conditioning units reaching the end of their useful life to estimate the percent of electric or heat pump replacements that will occur each year. The percent of replacements is then paired with the share of residential natural gas consumption those central air conditioning units and related space heating units account for in the average California house to estimate the overall reduction in existing residential natural gas consumption from this ordinance.

This Action will reduce existing commercial and mixed-use natural gas consumption three percent by 2030 and six percent by 2045. The quantification is made under the conservative assumption that the two-way AC ordinance would be implemented after the major renovation ordinance with diminishing returns rather than have an aggregated effect on nonresidential natural gas. Table 18 shows the parameters and data sources that support the residential building electrification ordinance GHG emission reductions and Table 19 shows the calculations as outlined in Equations 7 through 7.4.

Two-Way Nonresidential AC Ordinance Equations

Equation 7 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 7.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * Reduction_{NG,y,i}$

Equation 7.2 $Reduction_{NG,y,i} = (EOL_{NG,HVAC,y,i} * Fuel\ Share_{NG,HVAC,i})$

Equation 7.3 $EOL_{NG,HVAC,y,i} = 1 / LSP_{HVAC,i} * (y - imp.y_i) * CAC_i * (1 - NCR_i)$

Equation 7.4 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 18 Two-Way Nonresidential AC Ordinance Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 7				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Nonresidential	N/A	N/A
Equation 7.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovation electrification (Action BE-3c)	See calculation table	therms	Forecast
$Reduction_{NG}$	Natural gas reduction percent	See calculation table	percentage	N/A
Equation 7.2				

Variable	Definition	Value	Unit	Data Source
$EOL_{NG,HVAC}$	Percent of HVAC units reaching end-of-life	See calculation table	percentage	N/A
$Fuel\ Share_{NG,HVAC}$	Percent of residential natural gas consumption from space heating/cooling	39%	percentage	Hopkins, Asa S., PhD et al. Decarbonization of Heating Energy Use in California Buildings (2018) ¹

Variable	Definition	Value	Unit	Data Source
Equation 7.3				
LSP_{HVAC}	Average residential HVAC unit lifespan	21.5	years	U.S. Energy information Administration. Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023). ²
$imp.y$	Ordinance implementation year	See calculation table	year	N/A
CAC	Share of buildings with central air conditioning	34%	percentage	Conservatively assumed to follow housing central air conditioning data. Calculated from the U.S. Census Bureau's 2021 American Housing Survey for San Francisco. ³
NCR	Ordinance noncompliance rate	12%	percentage	Estimate based on permit evasion rates and strategies to increase building code compliance. ^{4, 5, 6}
Equation 7.4				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ⁷
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁸

¹ Hopkins, Asa S. et al. Decarbonization of Heating Energy Use in California Buildings (2018).

² US Energy Information Administration (EIA). Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023).

³ U.S. Census Bureau. American Housing Survey. 2021 San Francisco — Heating, Air Conditioning, and Appliances — All Occupied Units. Accessed at: https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=41860&s_year=2021&s_tablename=TABLE3&s_bygroup1=1&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1.

⁴ Alvarez, Emily and Mast, Bruce. BayREN Codes & Standards Program. Local Government Policy Calculator for Existing Single-Family Buildings – User Guide (2021).

⁵ California Public Utilities Commission (CPUC). Final Report: 2014-16 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I – Report (2017).

⁶ Meres, Ryan et al. American Council for an Energy-Efficient Economy (ACEEE). Successful Strategies for Improving Compliance with Building Energy Codes (2012).

⁷ Metric Conversions. Therms (US) to Kilowatt-hours.

⁸ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).

Table 19 Two-Way Nonresidential AC Ordinance GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 7.1					
$Fuel_{NG,y,i}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovation electrification (Action BE-3c)	therms	Nonresidential	765,190	512,245
$Fuel\ Avoided_{NG,y,i}$	Natural gas consumption avoided	therms	Nonresidential	24,885	58,307
Equations 7.2					
$Reduction_{NG}$	Natural gas reduction percent	percentage	Nonresidential	3%	11%
Equations 7.3					

$EOL_{NG,HVAC}$	Percent of HVAC units reaching end-of-life since ordinance implementation	percentage	Nonresidential	8%	27%
$imp.y$	Ordinance implementation year	year	Nonresidential	2024	2024
Equation 7.4					
$Elec\ Converted$	Electricity usage from conversion	kWh	Nonresidential	243,046	569,463
Equation 7					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Nonresidential	0.000023	0.00
$CO_2e\ Reduction_{NG,y,i}$	Natural gas GHG emission reductions	MT CO ₂ e	Nonresidential	157	381

Additionally, Pinole’s commercial and mixed-use buildings will be affected by BAAQMD’s zero-NOx rules. While small water heaters are affected beginning in 2027, large water heaters are affected beginning January 1, 2031.¹⁸ This Measure’s quantification conservatively assumes all commercial and mixed-use residential buildings have large water heaters and will begin switching to heat pump water heaters in 2031 with full compliance.

This rule will not impact existing commercial and mixed-use natural gas consumption by 2030 but will reduce existing commercial and mixed-use natural gas consumption 16 percent by 2045. The quantification is made under the conservative assumption that the zero-NOx rules would be implemented after the major renovation ordinance with diminishing returns rather than have an aggregated effect on nonresidential natural gas. Table 20 shows the parameters and data sources that support BAAQMD’s zero-NOx rule GHG emission reductions and Table 21 shows the calculations as outlined in Equations 8 through 8.4.

BAAQMD Zero-NOx Rule for Commercial and Mixed-use Water Heating Equations

Equation 8 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 8.1 $Fuel\ Avoided_{NG,y,i} = Fuel_{NG,y,i} * Reduction_{NG,y,i}$

Equation 8.2 $Reduction_{NG,y,i} = (EOL_{NG,wh,y,i} * Fuel\ Share_{NG,wh,i})$

Equation 8.3 $EOL_{NG,wh,y,i} = 1 / LSP_{wh,i} * (y - imp.y_i) * (1 - NCR_i)$

Equation 8.4 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

Table 20 BAAQMD Zero-NOx Rule for Commercial and Mixed-use Water Heating Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 8				
$CO_2e\ Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec\ Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Nonresidential	N/A	N/A

¹⁸ Rule 9-6 affects the future sale of NOx emitting water heaters and boilers with a rated heat capacity of 75,000 British thermal units per hour or less. This threshold equates to an upper limit of NOx emitting water heaters with a 75-gallon tank capacity. Higher capacity water heaters will be regulated starting January 1, 2031. Water heaters under the threshold are typically found in small commercial buildings and water heaters over the threshold are found in large commercial buildings.

Variable	Definition	Value	Unit	Data Source
Equation 8.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovations	See calculation table	therms	Forecast
$Reduction_{NG}$	Natural gas reduction percent	See calculation table	percentage	N/A
Equation 8.2				
$EOL_{NG,wh}$	Percent of water heaters reaching end-of-life	See calculation table	percentage	N/A
$Fuel\ Share_{NG,wh}$	Percent of residential natural gas consumption from water heaters	38%	percentage	Hopkins, Asa S., PhD et al. Decarbonization of Heating Energy Use in California Buildings (2018). ¹
Equation 8.3				
LSP_{wh}	Average residential water heater lifespan	13	years	U.S. Energy information Administration. Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023). ²
$imp.y$	Ordinance implementation year	2031	year	Year zero-NOx rule goes into effect for large water heaters.
NCR	Ordinance noncompliance rate	0%	percentage	Full compliance assumed because the zero-NOx rule is a regional rule on the sale of water heaters.
Equation 8.4				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ³
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ⁴
¹ Hopkins, Asa S. et al. Decarbonization of Heating Energy Use in California Buildings (2018). ² US Energy Information Administration (EIA). Updated Buildings Sector Appliance and Equipment Costs and Efficiencies (2023). ³ Metric Conversions. Therms (US) to Kilowatt-hours. ⁴ European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).				

Table 21 BAAQMD Zero-NOx Rule for Commercial and Mixed-use Water Heating GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 8.1					
$Fuel_{NG,y,i}$	Forecasted natural gas consumption after new construction electrification (Measure BE-1) and major renovation electrification (BE-3c)	therms	Nonresidential	765,190	512,245
$Fuel\ Avoided_{NG,y,i}$	Natural gas consumption avoided	therms	Nonresidential	0	142,290
Equations 8.2					
$Reduction_{NG}$	Natural gas reduction percent	percentage	Nonresidential	0%	28%
Equations 8.3					
$EOL_{NG,wh}$	Percent of water heaters reaching end-of-life since ordinance implementation	percentage	Nonresidential	0%	100%
Equation 8.4					
$Elec\ Converted$	Electricity usage from conversion	kWh	Nonresidential	0	1,389,701
Equation 8					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Nonresidential	0.000023	0.00
CO₂e Reduction_{NG,y,i}	Natural gas GHG emission reductions	MT CO₂e	Nonresidential	0	929

Lastly, Action BE-2j's end-of-flow ordinance will provide the remaining natural gas consumption reductions to achieve a 100 percent reduction in commercial and mixed-use natural gas consumption by 2045. The end-of-flow ordinance will set the direction for full commercial and mixed-use building electrification in Pinole and require all natural gas lines be decommissioned and capped in existing commercial and mixed-use buildings by 2045. As mentioned above, the City of Half Moon Bay adopted such an ordinance in 2022.¹⁹

This Action will reduce existing commercial and mixed-use natural gas consumption an additional 35 percent by 2045 to achieve 100 percent commercial and mixed-use building electrification. Table 22 shows the parameters and data sources that support the end-of-flow ordinance GHG emission reductions and Table 23 shows the calculations as outlined in Equations 9 through 9.2.

End-of-flow Ordinance Equations

Equation 9 $CO_2e\ Reduction_{NG,y,i} = (Fuel\ Avoided_{NG,y,i} * EF_{NG}) + (Fuel\ Avoided_{NG,y,i} * L_{NGL} * EF_{NGL}) - (Elec\ Converted_{y,i} * EF_{elec,y,i})$

Equation 9.1 $Fuel\ Avoided_{NG,y,i} = \begin{cases} Fuel_{NG,y,i}, & y = imp.\ y \\ 0, & otherwise \end{cases}$

Equation 9.2 $Elec_{convert,y,i} = Fuel\ Avoided_{NG,y,i} * CF_{elec} / Eff_{elec}$

¹⁹ City of Half Moon Bay. Building Electrification.

Table 22 End-of-flow Ordinance Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 9				
CO_2e $Reduction_{NG}$	Natural gas GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel$ $Avoided_{NG}$	Natural gas consumption avoided	See calculation table	therms	Calculated
EF_{NG}	Natural gas emission factor	0.005311	MT CO ₂ e/therm	Inventory & Forecast
L_{NGL}	Natural gas leakage factor	2.3%	percentage	Inventory & Forecast
EF_{NGL}	Natural gas leakage emission factor	0.05307	MT CO ₂ e/therm	Inventory & Forecast
$Elec$ $Converted$	Electricity usage from conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
y	Year	2030 or 2045	year	N/A
i	Subsector	Nonresidential	N/A	N/A
Equation 9.1				
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification (Measure BE-1), major renovation electrification (Action BE-2b), air conditioning electrification (Action BE-2a), and water heater electrification (BAAQMD Rule 9-6).	See calculation table	therms	Forecast
$imp.y$	Ordinance implementation year	See calculation table	year	N/A
Equation 9.2				
CF_{elec}	Electricity to therms conversion factor	29.3	kWh/therm	Metric Conversions ¹
Eff_{elec}	Efficiency factor of electric equipment relative to natural gas equipment	3	unitless	European Copper Institute ²

¹ Metric Conversions. Therms (US) to Kilowatt-hours.

² European Copper Institute. Heat Pumps: Integrating technologies to decarbonise heating and cooling (2018).

Table 23 End-of-flow Ordinance GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 9.1					
$Fuel_{NG}$	Forecasted natural gas consumption after new building electrification (Measure BE-1), major renovation electrification (Action BE-3c), air conditioning electrification (Action BE-3b), and water heater electrification (BAAQMD Rule 9-6).	therms	Nonresidential	740,304	311,648
$imp.y$	Ordinance implementation year	year	Nonresidential	2045	2045
$Fuel\ Avoided_{NG}$	Natural gas consumption avoided	therms	Nonresidential	0	311,648
Equation 9.2					
$Elec\ Converted$	Electricity usage from conversion	kWh	Nonresidential	0	3,043,760
Equation 9					
EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Nonresidential	0.000023	0.00
$CO_2e\ Reduction_{NG,y,i}$	Natural gas GHG emission reductions	MT CO ₂ e	Nonresidential	0	2,035

BE-4: Work with MCE to provide 100% carbon-free and renewable energy to at least 95% of the community by 2030.

Measure BE-4 aims to increase the share of Pinole’s residential, commercial, and mixed-use electricity consumption sourced from carbon-free and renewable sources to 100 percent. The primary Action that enables this target is **Action BE-4a**, which directs the City to adopt a resolution to enroll all Pinole residents and businesses in MCE’s 100 percent carbon-free and renewable electricity program by 2030.

MCE currently offers an electricity option with a GHG emission rate lower than the other electricity options offered in the region. This electricity option, known as Deep Green, supplies electricity sourced 100 percent from solar and wind at a GHG emissions rate of zero.²⁰ Currently, electricity customers in Pinole are automatically enrolled in MCE’s Light Green electricity option (with a near-zero GHG emission factor) but are allowed to opt-up to MCE’s Deep Green electricity option, opt-out to receive electricity directly from PG&E, or opt-out to procure electricity at wholesale directly from electricity generators (i.e., direct access). Action BE-4a directs Pinole to switch their automatic enrollment from MCE’s Light Green option to MCE’s Deep Green Option, or similar option with 100 percent carbon-free and renewable electricity—to reduce such customers’ electricity GHG emissions to zero.

Automatic enrollment has shown to be an effective method of increasing the use of carbon-free and renewable energy. In January 2023, MCE completed a pilot project where all new move-ins across the service area were automatically enrolled in MCE’s Deep Green option as opposed to MCE’s Light Green service. The pilot increased Pinole’s Deep Green enrollment from three percent in January 2023, to over six percent in August 2023. Thus, changing customers’ automatic enrollment to the carbon-free and renewable electricity option in 2030 should immediately increase Pinole’s share of electricity sourced from carbon-free and renewable sources. It is, however, conservatively assumed some customers will opt-down from or opt-out of the service once automatically enrolled.

²⁰ California Energy Commission. 2022 Power Content Label: MCE. Accessed at: <https://www.energy.ca.gov/filebrowser/download/6043>.

Currently, Pinole has an MCE opt-out rate of about nine percent.²¹ Typical California community choice aggregation (CCA) opt-out rates are zero percent for municipal accounts, five percent for residential accounts, and 15 percent for commercial and industrial accounts.²² Furthermore, the City of Encinitas automatically enrolled community members in San Diego Community Power's Power100 service—their 100 percent renewable and carbon-free service. With no education or incentive initiatives, Encinitas experienced a seven percent opt-out rate and has maintained it since—with increased costs cited as the primary reason for opt-out.²³ Pinole will, thus, implement education initiatives and incentives to maintain an opt-out rate of five percent from MCE's carbon-free and renewable electricity option in 2030.

To minimize the opt-out rate, Pinole will implement education initiatives and incentives. As confirmed in Encinitas, Pinole understands cost is often the deciding factor for residents and businesses when making choices about energy provider.²⁴ For this reason, Pinole will focus educational efforts on available financial assistance programs to keep customers in MCE. As directed by Action BE-4a, Pinole will also identify a funding or subsidy plan or program (detailed in Action BE-4b) for customers enrolled in the California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) programs. This plan or program will prevent customers enrolled in these programs from experiencing cost increases due to the automatic enrollment to 100 percent carbon-free and renewable electricity. Moreover, studies have also shown informational programs can result in up to a 70 percent implementation rate of recommended practices by participants.²⁵ The City will, therefore, include education on the benefits of clean energy for residents and businesses to encourage customers to remain in MCE. With these factors it is assumed the City will maintain an opt-out rate of five percent from MCE's carbon-free and renewable electricity option in 2030.

While education and funding will support Pinole's automatic enrollment move to achieve this Measure, the City also understands they will need to work directly with MCE to provide Pinole 100 percent carbon-free and renewable electricity at cost-effective rates. Currently MCE does not have the capacity to enroll all Pinole residents in Deep Green due to high costs and procurement constraints. Thus, this Action directs Pinole to work with MCE as they evaluate their service options and assumes MCE and the City will be able to supply all Pinole customers with carbon-free and renewable electricity by 2030. Table 24 shows the parameters and data sources that support these carbon-free and renewable electricity GHG emission reductions and Table 25 shows the calculations as outlined in Equations 10 through 10.1.

²¹ MCE. Communities at a Glance: MCE Electric Accounts by Community (April 2024). Available at: <https://www.mcecaneenergy.org/member-communities/>.

²² County of Butte. July 2018. Community Choice Aggregation Initial Feasibility Study. Page 18. Accessed at: http://buttecounty.granicus.com/Viewer.php?view_id=2&clip_id=512&meta_id=87147

²³ San Diego Community Power (SDCP). Presentation at the San Diego Regional Climate Collaborative's Networking Meeting on October 17, 2023.

²⁴ Villasenor, Karen. The City of Rancho Mirage Launches Community Choice Aggregation Program with Low Opt-Out Rate (2018). Accessed at: <https://www.civicbusinessjournal.com/city-rancho-mirage-launches-community-choice-aggregation-program-low-opt-rate/>.

²⁵ Laquatra, Joseph et al. The Consumer Education Program for Residential Energy Efficiency (2009). Accessed at: <https://archives.joe.org/joe/2009december/a6.php>.

Carbon-free and Renewable Electricity Equations

Equation 10 $CO_2e\ Reduction_{Elec,y,i} = Total\ Elec_{y,i} * (1 - Opt-Out\ Rate) * (1 + L_{elec}) * (EF_{elec,y,i} - EF_{CF\ and\ R,y})$

Equation 10.1 $Total\ Elec_{y,i} = Elec_{y,i} + Total\ Elec\ Converted_{y,i}$

Table 24 Carbon-free and Renewable Electricity Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 10				
$CO_2e\ Reduction_{Elec}$	Electricity GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Total\ Elec$	Total electricity consumption	See calculation table	kWh	Calculated
$Opt-Out\ Rate$	MCE opt-out rate	5%	percentage	Estimated based on California CCA opt-out rates, minimized by incentives and education. ^{1, 2, 3, 4}
L_{elec}	Transmission and distribution loss	5.1%	percentage	Forecast
EF_{elec}	Forecasted electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
$EF_{CF\ and\ R}$	Electricity emission factor of MCE's carbon-free and renewable electricity (e.g., Deep Green)	0	MT CO ₂ e/kWh	California Energy Commission ⁵
y	Year	2030 or 2045	year	N/A
i	Subsector	Residential & Nonresidential	N/A	N/A
Equation 10.1				
$Elec$	Forecasted electricity consumption	See calculation table	kWh	Forecast
$Total\ Elec\ Converted$	Total electricity usage from conversions	See calculation table	kWh	Measures BE-1, BE-2, BE-3, TR-4, and TR-5.

¹ County of Butte. July 2018. Community Choice Aggregation Initial Feasibility Study. Page 18.
² San Diego Community Power (SDCP). Presentation at the San Diego Regional Climate Collaborative's Networking Meeting on October 17, 2023.
³ Villasenor, Karen. The City of Rancho Mirage Launches Community Choice Aggregation Program with Low Opt-Out Rate (2018).
⁴ Laquatra, Joseph et al. The Consumer Education Program for Residential Energy Efficiency (2009).
⁵ California Energy Commission. 2021 Power Content Label: Silicon Valley Clean Energy.

Table 25 Carbon-free and Renewable Electricity GHG Emission Reduction Calculations

Variable	Definition	Units	Sector	2030	2045
Equation 10.1					
$Elec$	Forecasted electricity consumption	kWh	Residential & Nonresidential	76,741,176	86,451,073
$Total\ Elec\ Converted$	Total electricity usage from conversions	kWh	Residential & Nonresidential	11,226,660	46,511,191
$Total\ Elec$	Total electricity consumption	kWh	Residential & Nonresidential	83,569,444	126,314,151
Equation 10					

EF_{elec}	Forecasted electricity emission factor	MT CO ₂ e/kWh	Residential & Nonresidential	0.000036	0
CO_2e Reduction_{NG}	Electricity GHG emission reductions	MT CO₂e	Residential & Nonresidential	3,200	0

BE-5: Increase generation and storage of local community-scale renewable energy by exploring new advancements in the clean energy sector.

Measure BE-5 directs Pinole to increase the generation and storage of local community-scale renewable energy in the City. Community-scale renewable energy provides electricity for community or commercial consumption rather than for a single home as residential rooftop solar does. While this Measure may produce GHG emission reductions in the short-term (i.e., before the grid is decarbonized), it is not quantified in this CAAP due to the high potential to double count GHG emission reductions with Measure BE-4. This Measure does however directly support the transition to carbon-free and renewable electricity—and in turn support the GHG emission reductions from Measures BE-1, Measure BE-2, and Measure BE-3—by providing flexible, carbon-free electricity.

Community solar can help support electrification and GHG emissions reduction in several ways. For many customers, community solar can make electricity bills less expensive, providing cost savings that are supportive of electrification when compared to grid electricity or gas bills. Community solar can also generate resilience and grid benefits, protecting customers who electrify from potential grid disturbances. Lastly, community solar can provide more customers access to these benefits through local renewable energy generation. Nearly 50 percent of households and businesses nationwide are unable to host rooftop solar systems due to rental limitations, roof conditions (e.g., too much shade, too small), and upfront costs. Community solar provides a way for such community members to experience the benefits—specifically the cost savings and resilience benefits—of local solar energy generation.²⁶

²⁶ Office of Energy Efficiency & Renewable Energy. Community Solar Basics. Accessed at: <https://www.energy.gov/eere/solar/community-solar-basics>.

4 Strategy TR: Transportation

The City of Pinole’s Transportation Strategy aims to reduce vehicle miles traveled (VMT) and leverage renewable and carbon-free electricity (provided by Strategy BE) to reduce GHG emissions from the transportation system. Reducing VMT consists of transitioning Pinole residents and visitors out of single-occupancy vehicles and into active transportation mode options (i.e., walking and biking) and public and shared transit options (e.g., public buses, rail, carpools) by improving these modes and adopting policies to discourage single-occupancy vehicle commutes. The remaining VMT will then be decarbonized by increasing the adoption of zero-emission vehicles. When combined with renewable and carbon-free electricity, electric vehicles eliminate GHG emissions from fossil fuel combustion and transition commutes to a zero-emission operational footprint. Additionally, the Strategy targets off-road equipment and vehicles for decarbonization. Based on this approach, the CAAP’s Transportation Strategy consists of the following Measures presented in Table 26. The table also indicates which Measures are quantitative and which Measures are supportive. The following subsections detail the substantial evidence and calculation methodologies of the quantitative Measures and the role of the supportive Measures.

Table 26 Strategy TR: Transportation GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy TR: Transportation			
TR-1	Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.	107	256
TR-2	Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.	256	559
TR-3	Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.	Supportive	Supportive
TR-4	Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.	3,832	13,839
TR-5	Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.	2,303	8,186
TR-6	Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.	1,245	10,721
Total		7,743	33,561

TR-1: Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.

Measure TR-1 aims to increase Pinole's active transportation mode share to 5.5 percent by 2030 and to 11.5 percent by 2045. The primary Actions that enable this Measure are **Action TR-1b** which directs the City to complete the Active Transportation Plan currently underway; and **Action TR-1i** which commits the City to implement 100 percent of the Active Transportation Plan by 2030 to achieve the short- and long-term mode share targets.

Currently, Pinole has low bicycle and walking mode shares. In 2017 (i.e., Pinole's inventory year), Pinole's bicycle and pedestrian mode shares were 0.2 percent and 1.7 percent, respectively.²⁷ However, studies show that investments in active transportation infrastructure have demonstrated significant improvements in active transportation mode shifts and GHG emissions reductions.²⁸ For example, urban cities that make a strong commitment to bicycle travel can see up to an 11 percent reduction in vehicle miles traveled and associated GHG emissions.²⁹ Such reductions can be reasonably expected because in 2017, about 16 percent of vehicle trips made nationally were one mile or less—a distance easily travelled by foot or bicycle.³⁰

To estimate the mode shift potential of developing and implementing an Active Transportation Plan in Pinole, other cities' bicycle and road networks were analyzed. The City of Berkeley leads the State with an 18 percent active transportation mode share in 2022 (i.e., 4.9 percent bicycle mode share and 13.4 percent pedestrian mode share) followed by the City of Davis with a 16 percent active transportation mode share in 2022 (i.e., 13.5 percent bicycle mode share and 2.6 percent pedestrian mode share).^{31, 32} For Pinole's 2030 quantification, a conservative active transportation mode share of four percent is assumed with the increase coming from bicycle mode share while walking mode share is conservatively assumed to remain constant. Pinole's 2045 quantification estimates an active transportation mode shift closer to—but still below—the maximums seen in Berkeley and Davis. Like 2030, the 2045 quantification assumes the increases would be attributable to bicycle mode share, while walking mode share remains constant. These active transportation mode share estimates also provide VMT reductions for Pinole well within the reductions shown in the cited studies.

Table 27 shows the parameters and data sources that support the GHG emission reductions from active transportation mode shifts and Table 28 shows the calculations as outlined in Equations 11 through 11.2.

²⁷ US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table/ACSST5Y2017.S0801?t=Commuting&g=160XX00US0657288>.

²⁸ Glazener, Andrew and Khreis, Haneen. Transforming our Cities: Best Practices Towards Clean Air and Active Transportation (2019). Accessed at: <https://link.springer.com/article/10.1007/s40572-019-0228-1>.

²⁹ Jacob Mason et al., Institute for Transportation & Development Policy and the University of California, Davis. A Global High Shift Cycling Scenario (2015). Accessed at: <https://itdpdotorg.wpengine.com/wp-content/uploads/2015/11/A-Global-High-Shift-Cycling-Scenario-Nov-2015.pdf>

³⁰ National Household Travel Survey. Population Vehicle Trips Statistics (2021). Accessed at: <https://nhts.ornl.gov/vehicle-trips>

³¹ US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table?t=Commuting&g=160XX00US0618100>.

³² US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table?t=Commuting&g=160XX00US0606000>.

Active Transportation Mode Share Equations

Equation 11 $CO_2e\ Reduction_{i,y} = VMT\ Reduced_{i,y} * VMT\ EF_{i,y}$

Equation 11.1 $VMT\ Reduced_{i,y} = VMT_{i,y} * TPM_{i,y} * TL_i * MS\ Increase_{Bike,y}$

Equation 11.2 $MS\ Increase_{Bike,y} = MS\ Target_{Active,y} - MS_{Walk,by} - MS_{Bike,by}$

Table 27 Active Transportation Mode Share Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 11				
$CO_2e\ Reduction$	VMT GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$VMT\ Reduced$	VMT reduced	See calculation table	miles	Calculated
$VMT\ EF$	VMT emission factor	See calculation table	MT CO ₂ e/mile	Forecast
Equation 11.1				
VMT	Forecasted VMT	See calculation table	miles	Forecast
TPM	Forecasted trips per mile	See calculation table	trips/mile	Forecast
TL	Average bicycle trip length	1.5	miles	CARB Quantifying Reductions in Vehicle Miles Traveled from New Bike Paths, Lanes, and Cycle Tracks: Technical Documentation ¹
$MS\ Increase_{Bike}$	Bicycle mode share increase	See calculation table	percentage	Calculated
i	VMT type	Passenger	N/A	N/A
y	Year	2030 or 2045	N/A	N/A
Equation 11.2				
$MS\ Target_{Active}$	Active transportation mode share target	See calculation table	percentage	Conservative estimate based on bicycle mode shares currently seen in Davis and Berkeley. ²
$MS_{Walk,by}$	Walking mode share in baseline year	0.2%	percentage	US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables. ³ Assumed constant through 2045.
$MS_{Bike,by}$	Bicycle mode share in baseline year	1.7%	percentage	US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables ³
by	Baseline year	2017	year	Inventory

¹ CARB. Quantifying Reductions in Vehicle Miles Traveled from New Bike Paths, Lanes, and Cycle Tracks: Technical Documentation (2019). Accessed at: https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/bicycle_facilities_technical_041519.pdf.

² US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801 | Commuting Characteristics by Sex.

³ US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables. S0801 | Commuting Characteristics by Sex.

Table 28 Active Transportation Mode Share GHG Emission Reduction Calculations

Variable	Definition	Units	VMT Type	2030	2045
Equation 11.2					
<i>MS Target_{Active}</i>	Active transportation mode share target	percentage	Passenger	5.5%	11.5%
<i>MS Increase_{Bike}</i>	Bicycle mode share increase	percentage	Passenger	3.8%	9.8%
Equation 11.1					
<i>VMT</i>	Forecasted VMT	miles	Passenger	56,269,980	58,383,176
<i>TPM</i>	Forecasted trips per mile	trips/mile	Passenger	0.1186	0.1189
<i>VMT Reduced</i>	VMT reduced	miles	Passenger	380,438	1,020,104
Equation 11					
<i>VMT EF</i>	VMT emission factor	MT CO ₂ e/mile	Passenger	0.000282	0.000251
CO₂e Reduction	VMT GHG emission reductions	MT CO₂e	Passenger	108	256

TR-2: Implement public and shared transit improvements and programs to achieve a 13% public transit mode share by 2030 and 18% by 2045.

Measure TR-2 aims to increase Pinole's public and shared transit mode share to 13 percent by 2030 and to ten percent by 2045. The primary Action that enables this Measure is **Action TR-2f** which directs the City to partner with the Western Contra Costa Transit Authority (WestCAT) to develop a plan to prioritize infrastructure improvements in existing neighborhoods that increase access to and use of public transit. The plan will include projects and timelines to expand bus routes and schedules and establish a schedule to monitor the community's public transit use and needs.

In 2017 (i.e., Pinole's inventory year), Pinole's public transit mode share was 9.4 percent.³³ However, other cities in the Bay Area exhibit higher public transit mode shares. In 2022, the City of Oakland had a public transit mode share of about 17 percent, the City of Berkeley had one of about 18 percent, and the City of San Francisco had one of about 24 percent.^{34, 35, 36} Studies have shown that expanding transit coverage through service routes and schedules can increase public transit mode share in a city. Specifically, studies which incorporated factors such as elasticity of transit demand and average mode shift factors have estimated that doubling transit coverage in a city can reduce VMT—and associated GHG emissions—up to 4.6 percent.³⁷ For this reason, Action TR-2f directs the City to work with WestCAT to increase the coverage of public transit services in Pinole.

For Pinole's 2030 quantification, a conservative public transit mode share of 13 percent is assumed while Pinole's 2045 quantification estimates a public transit mode shift closer to the maximums—but still below those—seen in other Bay Area cities. These public transit mode share estimates also provide VMT reductions well within the reductions shown in cited studies. These percentages are also made under the conservative assumption that the public transit Actions would be implemented

³³ US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table/ACSST5Y2017.S0801?t=Commuting&g=160XX00US0657288>.

³⁴ US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table/ACSST5Y2022.S0801?t=Commuting&g=160XX00US0653000>

³⁵ US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table/ACSST5Y2022.S0801?t=Commuting&g=160XX00US0606000>

³⁶ US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801|Commuting Characteristics by Sex. Accessed at: <https://data.census.gov/table/ACSST5Y2022.S0801?t=Commuting&g=160XX00US0667000>

³⁷ California Air Pollution Control Officers Association. Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (2021).

after the active transportation actions with diminishing returns rather than have an aggregated effect on total VMT.

Table 29 shows the parameters and data sources that support the GHG emission reductions associated with reducing vehicle miles traveled through public transit mode share and Table 30 shows the calculations as outlined in Equations 12 through 12.2.

Public Transit Mode Share Equations

Equation 12 $CO_2e\ Reduction_{i,y} = VMT\ Reduced_{i,y} * VMT\ EF_{i,y}$

Equation 12.1 $VMT\ Reduced_{i,y} = VMT_{i,y} * TPM_{i,y} * TL_i * MS\ Increase_{Public,y}$

Equation 12.2 $MS\ Increase_{Public,y} = MS\ Target_{Public,y} - MS_{Public,by}$

Table 29 Public Transit Mode Share Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 12				
$CO_2e\ Reduction$	VMT GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$VMT\ Reduced$	VMT reduced	See calculation table	miles	Calculated
$VMT\ EF$	VMT emission factor	See calculation table	MT CO ₂ e/mile	Forecast
Equation 12.1				
VMT	Forecasted VMT after active transportation reductions	See calculation table	miles	Forecast
TPM	Forecasted trips per mile	See calculation table	trips/mile	Forecast
TL	Average public transit trip length	3.8	miles	Used regular bus trip to remain conservative from American Public Transportation Association's Public Transportation Fact Book ¹
$MS\ Increase_{Public}$	Public transit mode share increase	See calculation table	percentage	Calculated
i	VMT type	Passenger	N/A	N/A
y	Year	2030 or 2045	N/A	N/A
Equation 12.2				
$MS\ Target_{Public}$	Public transit mode share target	See calculation table	percentage	Conservative estimate based on public transit mode shares currently seen in Oakland, Berkeley, and San Francisco. ²
$MS_{Public,by}$	Public transit mode share in baseline year	9.4%	percentage	US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables ³
by	Baseline year	2017	year	Inventory

¹ American Public Transportation Association. Public Transportation Fact Book (2018). Accessed at: <https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/FactBook/2018-APTA-Fact-Book.pdf>.

² US Census Bureau. 2022: ACS 5-Year Estimates Subject Tables. S0801 | Commuting Characteristics by Sex.

³ US Census Bureau. 2017: ACS 5-Year Estimates Subject Tables. S0801 | Commuting Characteristics by Sex.

Table 30 Public Transit Mode Share GHG Emission Reduction Calculations

Variable	Definition	Units	VMT Type	2030	2045
Equation 12.2					
<i>MS Target_{Public}</i>	Public transit mode share target	percentage	Passenger	13%	18%
<i>MS Increase_{Public}</i>	Public transit mode share increase	percentage	Passenger	3.6%	8.6%
Equation 12.1					
<i>VMT</i>	Forecasted VMT after active transportation reductions	miles	Passenger	55,889,542	57,363,072
<i>TPM</i>	Forecasted trips per mile	trips/mile	Passenger	0.1186	0.1189
<i>VMT Reduced</i>	VMT reduced	miles	Passenger	906,878	2,228,198
Equation 12					
<i>VMT EF</i>	VMT emission factor	MT CO ₂ e/mile	Passenger	0.000282	0.000251
<i>CO₂e Reduction</i>	VMT GHG emission reductions	MT CO ₂ e	Passenger	256	559

TR-3: Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.

Measure TR-3 directs Pinole to develop programs and policies to discourage travel by single-occupancy vehicles. Although this Measure may produce GHG emission reductions, it is not quantified in this CAAP due to the high potential to double count GHG emission reductions with Measures TR-1 and TR-2. This Measure does however directly support the active transportation and public transit mode share goals of Measure TR-1 and TR-2.

While incentive-based policies and infrastructure improvements, such as those identified in Measures TR-1 and TR-2, can effectively change community choices around transportation, the impacts of incentive-based policies increase when coupled with disincentives for less favorable choices, such as driving a gasoline-fueled single passenger vehicle.³⁸ This measure thus focuses on ways to discourage use of single passenger vehicles, including limiting parking, implementing increased or new taxes, and developing a Transportation Demand Management program with tiered fees. Because disincentive-based policies like these can place a disproportionate burden on the community, this Measure focuses on feasibility analyses and equity metrics.

TR-4: Increase passenger zero-emission vehicle use and adoption to 33% by 2030 and 100% by 2045.

Measure TR-4 aims to increase passenger zero-emission vehicle (ZEV) adoption in Pinole to 33 percent by 2030 and 100 percent by 2045. While the State is anticipated to reach a 26 percent ZEV adoption rate by 2030,³⁹ Pinole plans to exceed this goal through focused public and private

³⁸ Ogunkunbi, Gabriel Ayobami et al. Evidence-Based Market Overview of Incentives and Disincentives in Electric Mobility as a Key to the Sustainable Future (2021). Accessed at: <https://www.mdpi.com/2673-7590/1/2/17/pdf>.

³⁹ Based on the zero-emission vehicle goals for passenger vehicles established by Executive Order N-79-20, eight million zero-emission vehicles are anticipated statewide by 2030. Pinole calculated that these eight million zero-emission vehicles represent 26 percent of the total passenger vehicles expected statewide by 2030 (based on statewide passenger car and light-duty truck counts in 2016 and population estimates for 2016 and 2030).

Crisostomo, Noel et al. Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. Accessed at: [Calmatters.org/environment/2023/03/california-electric-cars-demographics/?utm_id=91724&sfmc_id=4863450](https://calmatters.org/environment/2023/03/california-electric-cars-demographics/?utm_id=91724&sfmc_id=4863450).

investments in electric vehicle (EV) charging infrastructure. The primary Actions that are designed to drive these investments and enable this Measure include **Action TR-4o** which focuses on the installation of publicly accessible EV chargers; and **Actions TR-4a, TR-4b, and TR-4g** which focus on the installation of private EV charging infrastructure in new and existing buildings.

Action TR-4o directs Pinole to install the number of publicly accessible EV chargers needed to support Pinole’s zero-emission vehicle adoption target. This Action focuses on public EV chargers because studies have consistently found that limited charging infrastructure is one of the primary barriers to electric vehicle adoption.^{40, 41} Publicly accessible EV chargers make owning an electric vehicle convenient for all drivers—including those who cannot charge at home or drive daily distances longer than their electric vehicle battery range. According to a recent study on public charging infrastructure needs, it is expected that 20 percent of EV charging nationally will occur at publicly accessible chargers in 2030.⁴² This Action’s quantification is based on the U.S. Department of Energy’s Electric Vehicle Infrastructure Projection Tool outputs for the San Francisco-Oakland-Berkeley Metropolitan Area.⁴³ The tool is used to calculate the number of publicly accessible EV chargers needed in Pinole to support a 33 percent passenger ZEV adoption in 2030 and a 100 percent passenger ZEV adoption in 2045. The quantification assumes all ZEVs will be EVs to remain conservative in the plan for EV chargers.

Table 31 shows the parameters and data sources used to calculate the publicly accessible EV chargers needed in 2030 and 2045 with the Department of Energy’s Electric Vehicle Infrastructure Projection Tool and Table 32 shows the calculations as outlined in Equations 13 through 13.2.

Publicly Accessible Electric Vehicle Chargers Equation

Equation 13 $EV\ Chargers_y = Region\ EV\ Chargers_y * (EVs_y / (Region\ EVs_y) - Existing\ EV\ Chargers_{by})$

Equation 13.1 $EVs_y = Population_y * (Vehicles_{by} / Population_{by}) * ZEV\ Adoption_y$

Equation 13.2 $Region\ EVs_y = Region\ Vehicles_y * ZEV\ Adoption_y$

⁴⁰ Kumar, Rajeev Ranjan and Kumar Alok. Adoption of Electric Vehicle: A Literature Review and Prospects for Sustainability (2020). Accessed at: <https://www.sciencedirect.com/science/article/abs/pii/S095965261934781X>.

⁴¹ Winjobi, Olumide and Kelly, Jarod. Used Plug-in Electric Vehicles as a Means of Transportation Equity in Low-Income Households (2021). Accessed at: <https://www.osti.gov/biblio/1658592>.

⁴² Kampshoff, Philipp et al. Building the Electric-Vehicle Charging Infrastructure America Needs (2022). Accessed at: <https://www.mckinsey.com/industries/public-sector/our-insights/building-the-electric-vehicle-charging-infrastructure-america-needs>.

⁴³ U.S. Department of Energy. Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite. Accessed at: <https://afdc.energy.gov/evi-pro-lite>.

Table 31 Publicly Accessible Electric Vehicle Charger Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 13				
<i>EV Chargers</i>	New publicly accessible electric vehicle chargers needed in Pinole	See calculation table	chargers	Calculated
<i>Region EV Chargers</i>	Regional electric vehicle chargers needed	See calculation table	electric vehicles	Estimated using the Electric Vehicle Infrastructure Projection Tool public charger outputs for the San Francisco-Oakland-Berkeley Metropolitan Area with the <i>Region EVs</i> ₂₀₃₀ value as the input. ¹
<i>EVs</i>	Electric vehicles targeted in Pinole	See calculation table	electric vehicles	Calculated
<i>Region EVs</i>	Regional electric vehicles targeted	See calculation table	electric vehicles	Calculated
<i>Existing EV Chargers_b</i>	Existing publicly accessible electric vehicle chargers in Pinole	8	chargers	PlugShare ²
<i>y</i>	Year	2030 or 2045	year	N/A
<i>by</i>	Baseline year	2020	year	N/A
Equation 13.1				
<i>Population</i>	Forecasted population in Pinole	See calculation table	people	Inventory
<i>Vehicles_{by}</i>	Vehicles in baseline year in Pinole	16,829	vehicles	California Department of Motor Vehicles ³
<i>Population</i>	Population in baseline year in Pinole	20,410	people	Inventory
<i>ZEV Adoption</i>	Zero-emission vehicle adoption target	See calculation table	percentage	Targeted zero-emission vehicle adoption for Measure TR-4.
Equation 13.2				
<i>Region Vehicles</i>	Regional vehicles	3,500,500	vehicles	Electric Vehicle Infrastructure Projection Tool value for the San Francisco-Oakland-Berkeley Metropolitan Area ¹

¹ U.S. Department of Energy. Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite.² PlugShare. EV Charging in Pinole, CA. Accessed at: <https://www.plugshare.com/directory/us/california/pinole>.³ California Department of Motor Vehicles. Fuel Type by County as of 1/1/2020. Accessed at: https://www.dmv.ca.gov/portal/uploads/2020/09/MotorVehicleFuelTypes_City_01012020.pdf.

Table 32 Publicly Accessible Electric Vehicle Charger Parameters and Data Sources

Variable	Definition	Units	2030	2045
Equation 13.2				
<i>ZEV Adoption</i>	Zero-emission vehicle adoption target	percentage	33%	100%
<i>Region EVs</i>	Regional electric vehicles targeted	electric vehicles	1,155,165	3,500,500
Equation 13.1				
<i>Population</i>	Forecasted population in Pinole	people	23,110	27,845
<i>EVs</i>	Electric vehicles targeted in Pinole	electric vehicles	6,288	22,960
Equation 13				
<i>Region EV Chargers</i>	Regional electric vehicle chargers needed	electric vehicles	50,522	286,225
<i>EV Chargers</i>	New publicly accessible electric vehicle chargers needed in Pinole	chargers	267	323

Through public-private funding and partnerships, Pinole will install 267 publicly accessible EV chargers by 2030 and 323 publicly accessible EV chargers by 2045 at prioritized locations on City-owned properties and across the community to support the Measure’s passenger ZEV adoption goals.⁴⁴ These ZEVs will also be supported by private electric vehicle chargers in new developments and existing buildings.

Actions TR-4a and TR-4b commit the City to adopting the Tier 2 voluntary measures of the California Green Building Standards Code—Part 11, Title 24, California Code of Regulations—known as CALGreen. Once adopted through a reach code in 2025, these Tier 2 requirements will be mandatory for new commercial and multifamily construction in Pinole and require such buildings to install the minimum number of EV chargers based on the requirements (i.e., 20 percent of total parking spaces). Additionally, Pinole will adopt Tier 2 requirements for major commercial and multifamily retrofits through a reach code in 2026. These requirements will require major commercial retrofits to meet Tier 2 requirements for “EV Ready” charging spaces and infrastructure; and major multifamily building retrofits to install the minimum number of EV chargers based on Tier 2 requirements (i.e., 20 percent of total parking spaces).⁴⁵ These Actions will work to increase private EV chargers at new buildings. Action TR-4g directs the City to work with MCE and PG&E to expand their incentive programs for EV chargers. This local funding along with new federal and State funding (e.g., Inflation Reduction Act) will help cover the upfront costs to purchasing an EV and installing the equipment or infrastructure upgrades needed to charge the EV at home as high costs are one of the barriers to EV adoption for low-income households.⁴⁶ These Actions will enable Pinole to install as many privately owned EV chargers in new and existing buildings as practical to

⁴⁴ Public-private funding and partnerships are expected due to the large amount of state and federal funding available to support California’s need for over one million public and shared chargers by 2030 to meet Executive Order B-48-18’s ZEV goals. Office of Governor Gavin Newsom. California Building Bigger, Better Zero-Emission Charging Network. Accessed at: <http://www.gov.ca.gov/2024/02/14/california-building-bigger-better-zero-emission-charging-network/>. Caltrans. California Investing in EV Charging Reliability Statewide with \$63 Million in Federal Funding (2024). Accessed at: <https://dot.ca.gov/news-releases/news-release-2024-002>. California Energy Commission (CEC). Electric Vehicle Charging Infrastructure Assessment-AB 2127. Accessed at: <https://www.energy.ca.gov/data-reports/reports/electric-vehicle-charging-infrastructure-assessment-ab-2127>.

⁴⁵ Major commercial retrofits include retrofits to commercial buildings with a square footage larger than 10,000 square feet or retrofits with modifications to electric service panels.

⁴⁶ Gaillard, Isa. Ingredients for Equitable Electrification: Analyzing Equity in Statewide Electric Vehicle Rebate Programs (2022). Accessed at: <https://greenlining.org/wp-content/uploads/2022/10/Greenlining-Ingredients-Equitable-Transportation-WebFINAL.pdf>.

support a 33 percent passenger ZEV adoption by 2030 and a 100 percent passenger ZEV adoption by 2045.

Table 33 shows the parameters and data sources that support GHG emission reductions from the zero-emission vehicle adoption and Table 34 shows the calculations as outlined in Equations 14 through 14.2.

Passenger Zero-emission Vehicle Adoption Equations

Equation 14 $CO_2e\ Reduction_{VMT,i,y} = (VMT\ Reduced_{ICE,i,y} * EF_{VMT,i,y}) - (Elec\ Converted_{i,y} * EF_{elec,i,y})$

Equation 14.1 $VMT\ Reduced_{ICE,i,y} = VMT_{i,y} * (ZEV\ Adoption_{i,y} - ZEV\ Adoption\ Baseline_{i,y})$

Equation 14.2 $Elec\ Converted_{i,y} = VMT\ Reduced_{ICE,i,y} * EPM_{ZEV,i,y}$

Table 33 Passenger Zero-emission Vehicle Adoption Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 14				
$CO_2e\ Reduction_{VMT}$	VMT GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$VMT\ Reduced_{ICE}$	Internal combustion engine VMT reduced	See calculation table	miles	Calculated
$EF_{VMT,y}$	Forecasted VMT emission factor	See calculation table	MT CO ₂ e/mile	Forecast
$Elec\ Converted$	Electricity from zero-emission vehicle conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted residential electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
i	VMT type	Passenger	N/A	N/A
y	Year	2030 or 2045	N/A	N/A
Equation 14.1				
VMT	Forecasted total VMT after VMT reductions (Measures TR-1 and TR-2)	See calculation table	miles/gallon	Forecast and Measures TR-1 and TR-2.
$ZEV\ Adoption$	Zero-emission vehicle adoption target	See calculation table	percentage	Targets that are enabled by 267 and 323 new publicly accessible chargers (Table 32).
$ZEV\ Adoption\ Baseline$	Zero-emission vehicle adoption baseline	See calculation table	percentage	Forecast
Equation 14.2				
EPM_{ZEV}	Forecasted electricity usage per mile of zero-emission vehicles	See calculation table	kWh/mile	Forecast

Table 34 Passenger Zero-emission Vehicle Adoption GHG Emission Reduction Calculations

Variable	Definition	Units	VMT Type	2030	2045
Equation 14.1					
<i>VMT</i>	Forecasted total VMT after VMT reductions (Measures TR- and TR-2)	miles	Passenger	54,982,663	55,134,874
<i>ZEV Adoption</i>	Zero-emission vehicle adoption target	percentage	Passenger	33%	100%
<i>ZEV Adoption Baseline</i>	Zero-emission vehicle adoption baseline	percentage	Passenger	7.65%	10.10%
<i>VMT Reduced_{ICE}</i>	Internal combustion engine VMT reduced	miles	Passenger	13,937,553	55,134,874
Equation 14.2					
<i>EPM_{ZEV}</i>	Forecasted electricity usage per mile of zero-emission vehicles	kWh/mile	Passenger	0.3689	0.3695
<i>Elec Converted</i>	Electricity from zero-emission vehicle conversion	kWh	Passenger	5,141,856	20,371,950
Equation 14					
<i>EF_{VMT}</i>	Forecasted VMT emission factor	MT CO ₂ e/mile	Passenger	0.000282	0.000251
<i>EF_{elec}</i>	Forecasted electricity emission factor	MT CO ₂ e/kWh	Passenger	0.000019	0
<i>CO₂e Reduction_{VMT}</i>	VMT GHG emission reductions	MT CO₂e	Passenger	3,832	13,839

TR-5: Increase commercial zero-emission vehicle (ZEV) use and adoption to 30% by 2030 and 100% by 2045.

Measure TR-5 aims for Pinole to increase commercial ZEV adoption to 30 percent by 2030 and 100 percent by 2045. Commercial VMT includes medium- and heavy-duty (MDHD) vehicles and trucks as well as buses. These commercial VMT targets are in line with the State’s goals and regulations for MDHD vehicles and buses. California is working towards achieving Executive Order (EO) N-79-20, which aims to reach a 100 percent zero-emission drayage truck population by 2035 and 100 percent zero-emission MDHD vehicle population by 2045. To reach these goals, CARB has adopted the Advanced Clean Trucks regulation which regulates the sale of MDHD vehicles in California and the Advanced Clean Fleets regulation which regulates the purchase and use of zero-emission MDHD vehicles in public and private fleets in California. These regulations have increasing requirements for zero-emission MDHD vehicle sales and use to mandate the phase-in of commercial ZEVs. For example, by 2030, the Advanced Clean Fleets regulation requires 10 percent of sleeper cab tractors and specialty vehicles, 25 percent of pickup trucks and day cab tractors, and 50 percent of box trucks, vans, and package delivery vehicles in a fleet to be zero-emission. Additionally, the State has adopted zero-emission regulations for transit buses including the Innovative Clean Transit which requires 100 percent of new transit bus purchases to be to be zero-emission starting in 2029 and 100 percent of transit bus fleets to be zero-emission by 2040.

Overall, it is estimated that compliance with these zero-emission regulations for MDHD vehicles in Pinole will equate to a 30 percent commercial ZEV adoption.⁴⁷ To support this compliance, Measure

⁴⁷ For example, the Inland Empire Utilities Agency (IEUA) completed a Zero-Emission Vehicle Readiness Plan in 2024. The plan assessed their existing MDHD vehicle fleet and estimated over 30 percent of their fleet would need to be zero-emission by 2030 to comply with the Advanced Clean Fleets regulation.
IEUA. Draft Zero-Emission Vehicle Readiness Plan (2024).

TR-5 includes Actions that focus on funding for and education of commercial ZEVs and these regulations. Table 35 shows the parameters and data sources that support the GHG emission reductions associated with commercial ZEVs and Table 36 shows the calculations as outlined in Equations 15 through 15.2.

Commercial Zero-emission Vehicle Adoption Equations

Equation 15 $CO_2e\ Reduction_{VMT,i,y} = (VMT\ Reduced_{ICE,i,y} * EF_{VMT,i,y}) - (Elec\ Converted_{i,y} * EF_{elec,i,y})$

Equation 15.1 $VMT\ Reduced_{ICE,i,y} = VMT_{i,y} * (ZEV\ Adoption_{i,y} - ZEV\ Adoption\ Baseline_{i,y})$

Equation 15.2 $Elec\ Converted_{i,y} = VMT\ Reduced_{ICE,i,y} * EPM_{ZEV,i,y}$

Table 35 Commercial Zero-emission Vehicle Adoption Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 15				
$CO_2e\ Reduction_{VMT}$	VMT GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$VMT\ Reduced_{ICE}$	Internal combustion engine VMT reduced	See calculation table	miles	Calculated
$EF_{VMT,y}$	Forecasted VMT emission factor	See calculation table	MT CO ₂ e/mile	Forecast
$Elec\ Converted$	Electricity from zero-emission vehicle conversion	See calculation table	kWh	Calculated
EF_{elec}	Forecasted nonresidential electricity emission factor	See calculation table	MT CO ₂ e/kWh	Forecast
i	VMT type	Commercial	N/A	N/A
y	Year	2030 or 2045	N/A	N/A
Equation 15.1				
VMT	Forecasted total VMT	See calculation table	miles/gallon	Forecast
$ZEV\ Adoption$	Zero-emission vehicle adoption target	See calculation table	percentage	Targets that are consistent with state regulations and goals.
$ZEV\ Adoption\ Baseline$	Zero-emission vehicle adoption baseline	See calculation table	percentage	Forecast
Equation 15.2				
EPM_{ZEV}	Forecasted electricity usage per mile of zero-emission vehicles	See calculation table	kWh/mile	Forecast

Table 36 Commercial Zero-emission Vehicle Adoption GHG Emission Reduction Calculations

Variable	Definition	Units	VMT Type	2030	2045
Equation 15.1					
<i>VMT</i>	Forecasted total VMT	miles	Commercial	9,774,662	11,382,970
<i>ZEV Adoption</i>	Zero-emission vehicle adoption target	percentage	Commercial	30%	100%
<i>ZEV Adoption Baseline</i>	Zero-emission vehicle adoption baseline	percentage	Commercial	7.29%	35.66%
<i>VMT Reduced_{ICE}</i>	Internal combustion engine VMT reduced	miles	Commercial	2,163,909	11,053,749
Equation 15.2					
<i>EPM_{ZEV}</i>	Forecasted electricity usage per mile of zero-emission vehicles	kWh/mile	Commercial	1.03	0.99
<i>Elec Converted</i>	Electricity from zero-emission vehicle conversion	kWh	Commercial	2,250,781	11,159,190
Equation 15					
<i>EF_{VMT}</i>	Forecasted VMT emission factor	MT CO ₂ e/mile	Commercial	0.001061	0.000719
<i>EF_{elec}</i>	Forecasted electricity emission factor	MT CO ₂ e/kWh	Commercial	0.000023	0.00
<i>CO₂e Reduction_{VMT}</i>	VMT GHG emission reductions	MT CO ₂ e	Commercial	2,303	8,186

TR-6: Electrify or otherwise decarbonize 15% of off-road equipment operations by 2030 and 100% by 2045.

Measure TR-6 aims for Pinole to decarbonize 15 percent of off-road vehicle and equipment use in the community by 2030 and 100 percent by 2045. The primary Action that enables this Measure is **Action TR-6a** which commits the City to establishing a phased ordinance by 2026 to ban local operation of gasoline and diesel-powered off-road vehicles and equipment by type.

The phased ordinance will first ban the operation of off-road vehicles and equipment with gasoline- and diesel-powered small off-road engines (SORE) by no later than 2028. As defined by CARB, SORE are those equipment types with rated power at or below 19 kilowatts (i.e., 25 horsepower). Typical off-road vehicle and equipment types that use these engines include lawn and garden equipment, portable generators, and pressure washers.⁴⁸ In 2030, gasoline and diesel used by these SOREs will compromise 19 percent of the off-road vehicle and equipment fuel used in Pinole.⁴⁹ By banning the operation of gasoline- and diesel-powered small off-road engines, the ordinance will effectively reduce more than 15 percent of the community's off-road fuel usage. Compliance with the ordinance will be supported by a communication and outreach program (**Action TR-6b** and **Action TR-6d**). The program will raise awareness of the ordinance and educate community members on the benefits of and funding opportunities for offroad decarbonization (e.g., CARB's Clean Off-road Equipment Voucher Incentive Program).

⁴⁸ California Air Resources Board. SORE Applicability Fact Sheet (2021). Accessed at: <https://ww2.arb.ca.gov/resources/fact-sheets/sore-applicability-fact-sheet>.

⁴⁹ Pinole's SORE fuel usage in 2030 was estimated by filtering CARB OFFROAD2021 model outputs (for Contra Costa County in 2030) for horsepower ratings less than or less than 25 and attributing the resulting County-level annual fuel usage to Pinole based on the attribution methodology used in the GHG inventory and forecast. The results were divided by the total estimated off-road fuel usage in Pinole in 2030 to estimate the share, or percentage, of fuel usage attributable to SOREs.

The remaining off-road fuel will be reduced after 2030 by targeting other vehicles and equipment types with engines greater than 25 horsepower through different phases of the ordinance. For example, the ordinance may first progress to ban the operation of gasoline- and diesel-powered lawn and garden equipment with engines greater than 25 horsepower. Where equipment does not have market-ready electric alternatives available, the ordinance will still require decarbonization of targeted equipment with renewable diesel. Renewable diesel is a drop-in renewable fuel produced from non-petroleum renewable sources—including vegetable oils and animal fats—and is readily available in California due to existing regulation requiring its use.⁵⁰ This requirement for renewable diesel will be a strong tool to increase compliance with the local ordinance by providing flexibility and can be counted towards the Measure because the State’s requirements for renewable diesel were not included in Pinole’s adjusted forecast.

This ordinance aligns with the State’s goals and regulations on off-road equipment and vehicles. The ordinance exceeds CARB’s SORE regulations which ban the sale of off-road vehicles and equipment with gasoline- and diesel-powered SOREs starting in 2024 and bans the sale of gasoline- and diesel-powered portable generators starting in 2028. The ordinance also aligns with EO N-79-20’s statewide goal to transition off-road vehicles and equipment operations to 100 percent zero-emission by 2035.

Table 37 shows the parameters and data sources that support off-road ordinance GHG emission reductions and Table 38 shows the calculations as outlined in Equations 16 through 16.1.

Off-road Decarbonization Equations

Equation 16 $CO_2e\ Reduction_{Fuel,y} = Fuel\ Reduced_y * EF_{Fuel}$

Equation 16.1 $Fuel\ Reduced_y = (Fuel_{Gasoline,y} + Fuel_{Diesel,y} + Fuel_{Natural\ Gas,y}) * Fuel\ Reduction_y$

Table 37 Off-road Decarbonization Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 16				
$CO_2e\ Reduction_{Fuel}$	Fuel GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$Fuel\ Reduced$	Fuel use reduced	See calculation table	gallons	Calculated
EF_{Fuel}	Weighted fuel emission factor	See calculation table	MT CO ₂ e/gallon	Forecast
y	Year	2030 or 2045	N/A	N/A
Equation 16.1				
$Fuel_{Gasoline}$	Forecasted gasoline use	See calculation table	gallon	Forecast
$Fuel_{Diesel}$	Forecasted diesel use	See calculation table	gallon	Forecast
$Fuel_{Natural\ Gas}$	Forecasted natural gas use	See calculation table	gallon	Forecast
$Fuel\ Reduction$	Fuel use reduction target	See calculation table	percentage	Estimated based on the share of small off-road engines in Pinole and direction of state goals (i.e., EO N-79-20). ¹

⁵⁰ California Air Resources Board. Fact Sheet: Renewable Diesel Fuel Requirements. Accessed at: <https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-renewable-diesel-fuel-requirements>.

¹ California Air Resources Board. Fact Sheet: Renewable Diesel Fuel Requirements.

Table 38 Off-road Decarbonization GHG Emission Reduction Calculations

Variable	Definition	Units	2030	2045
Equation 16.1				
$Fuel_{Gasoline}$	Forecasted gasoline use	gallons	275,967	328,790
$Fuel_{Diesel}$	Forecasted diesel use	gallons	547,673	732,098
$Fuel_{Natural\ Gas}$	Forecasted natural gas use	gallons	50,123	63,296
$Fuel\ Reduction$	Fuel use reduction target	percentage	15%	100%
$Fuel\ Reduced$	Fuel use reduced	gallons	131,064	1,124,185
Equation 16				
EF_{Fuel}	Weighted fuel emission factor	MT CO ₂ e/gallon	0.009499	0.009537
$CO_2e\ Reduction_{Fuel}$	Fuel GHG emission reductions	MT CO ₂ e	1,245	10,721

5 Strategy SW: Solid Waste

The City of Pinole's Solid Waste Strategy focuses on increasing diversion to reduce the amount of resources sent to the landfill and effectively using those diverted resources across the community. The Strategy aims to accomplish these goals by focusing on organic materials, inorganic materials, construction and demolition (C&D) materials, and wastewater organics along with the final compost product. In the landfill, organic waste decays without access to light or oxygen and produces methane (CH₄) gas. Diverting organic waste from the landfill reduces the occurrence of this anaerobic decomposition, providing Pinole with an important opportunity to reduce solid waste GHG emissions. After diverting and processing this organic waste, the compost product can be applied to lands in the community to sequester carbon. Thus, managing organic waste provides an important opportunity to employ circular economy methods to reduce GHG emissions and sequester carbon. While diverting inorganic waste and C&D waste from the landfill do not provide direct GHG emission reductions, they do support indirect GHG emission reduction benefits outside Pinole's jurisdiction. Based on this approach, the CAAP's Solid Waste Strategy consists of the Measures presented in Table 39. The table also indicates which Measures are quantitative and which Measures are supportive. The following subsections detail the substantial evidence and calculation methodologies of the quantitative Measures and the role of the supportive Measures.

Table 39 Strategy SW: Solid Waste GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy SW: Solid Waste			
SW-1	By 2025, reduce landfilled organic waste by 75% and support food insecure residents by diverting 20% of currently disposed edible food to food recovery organizations to meet and or exceed SB 1383 requirements.	2,934	3,570
SW-2	Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.	Supportive	Supportive
SW-3	Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.	Supportive	Supportive
SW-4	Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.	Supportive	Supportive
SW-5	Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.	425	513
Total		3,359	4,083

SW-1: By 2025, reduce organics sent to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.

Measure SW-1 aims for Pinole to meet SB 1383 requirements to recover 20 percent of disposed edible food for human consumption and reduce landfilled organic waste—and its associated GHG emissions—75 percent by 2025. The primary Actions that enable this Measure include:

- **Action SW-1a** which commits the City to establish requirements for waste haulers to complete annual performance assessments to analyze compliance with SB 1383 requirements;
- **Action SW-1b** which directs the City to work with partner organizations to complete a community-based social marketing (CBSM) outreach and education campaign for high organic generation commercial accounts on best practices in food waste reduction and surplus food donation;
- **Action SW-1e** which commits the City to establish and maintain an ongoing education program informing the community about compostable materials through workshops and regularly-updated guidelines;
- **Action SW-1g** which commits the City to work with local grocery stores and retail food markets along with community partners to establish a robust food rescue and distribution program;
- **Action SW-1j** which directs the City to continue partnering with waste hauler to include quarterly multi-lingual inserts in residential and commercial billing to highlight the no-cost organics pails and the composting programs;
- **Action SW-1k** which directs the City to develop a comprehensive outreach program to educate Homeowner Associations, neighborhood associations, and communities on social media platforms such as NextDoor and Pinole Community Television on the City’s organic waste diversion requirements along with available programs and resources; and,
- **Action SW-1l** which commits the City to implement a comprehensive organics collection and edible food recovery program for low-income and fixed-income people to ensure access to edible surplus food recipients.

These Actions encompass the activities the California Department of Resources Recycling and Recovery (CalRecycle) requires jurisdictions to conduct to comply with SB 1383.⁵¹ Continuing and completing these activities is thus expected to provide the levels of diversion, composting, and food donations needed to reduce Pinole’s landfilled organic waste 75 percent by 2025. This level of landfilled organic waste reduction is expected to directly reduce solid waste disposal GHG emissions 75 percent because nearly all GHG emissions from the natural decay of solid waste in landfills come from organic waste.⁵²

Table 40 shows the parameters and data sources that support the landfilled organic waste reduction GHG emission reductions and Table 41 shows the calculations as outlined in Equation 17.

⁵¹ CalRecycle. SB 1383 Jurisdiction Responsibilities. Accessed at: <https://www2.calrecycle.ca.gov/Docs/Web/119160#:~:text=Beginning%20in%202022%2C%20SB%201383,is%20automatically%20provided%20the%20service.>

⁵² According to the Local Governments for Sustainability (ICLEI) U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Appendix E – Solid Waste Emission Activities and Sources, GHG emissions are generated by non-biologic wastes only if they are combusted.

Landfilled Organic Waste Reduction Equations

Equation 17 $CO_2e\ Reduction_{LOW,y} = CO_2e\ Emissions_{LOW,y} * LOW\ Reduction_y$

Table 40 Landfilled Organics Reduction Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 17				
$CO_2e\ Reduction_{LOW}$	Landfilled organic waste GHG emission reductions	See calculation table	MT CO ₂ e	Calculated
$CO_2e\ Emissions_{LOW}$	Landfilled organic waste GHG emissions	See calculation table	MT CO ₂ e	Forecast
$LOW\ Reduction$	Landfilled organic waste reduction percent	75	percentage	Estimated based on compliance with CalRecycle's required activities for SB 1383 compliance and GHG emission factors for solid waste. ^{1,2}
y	Year	2030 or 2045	N/A	N/A

¹ CalRecycle. SB 1383 Jurisdiction Responsibilities.

² According to the ICLEI U.S. Community Protocol, Appendix E, GHG emissions are generated by non-biologic wastes only if they are combusted.

Table 41 Landfilled Organics Reduction GHG Emission Reduction Calculations

Variable	Definition	Units	2030	2045
Equation 17				
$CO_2e\ Emissions_{LOW}$	Landfilled organic waste GHG emissions	MT CO ₂ e	3,912	4,761
$CO_2e\ Reduction_{LOW}$	Landfilled organic waste GHG emission reductions	MT CO ₂ e	2,934	3,570

SW-2: Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.

Measure SW-2 aims to reduce inorganic landfilled waste 35 percent by 2030 and 90 percent by 2045. Inorganic waste is not a significant source of GHG emissions in landfills and is thus not quantified in this CAAP. However, reducing landfilled inorganic waste provides opportunities to reduce indirect GHG emissions associated with inorganic waste including the transportation of that waste to the landfill. It also provides an opportunity for community members to reduce their personal carbon footprints by decreasing upstream consumption emissions by repairing and reusing materials. These GHG emission reductions, however, are not under the jurisdictional control of the City cannot be counted towards Pinole's 2030 and 2045 targets.

SW-3: Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.

Measure SW-3 aims to meet CalGreen's requirements to divert 65 percent of C&D materials from the landfill on all covered projects. CalGreen mandates that locally permitted building construction, demolition, and certain additions and alteration projects recycle and/or salvage for reuse a minimum 65 percent of the nonhazardous C&D debris CalGreen sections 4.408, 5.408, 301.1.1 and 301.3).⁵³ Like inorganic waste, C&D waste is not a significant source of GHG emissions in landfills and is thus not quantified in this CAAP. However, reducing landfilled C&D waste provides

⁵³ CalRecycle. Construction and Demolition (C&D) Diversion Informational Guide Introduction. Accessed at: <https://calrecycle.ca.gov/lgcentral/library/canddmodel/>.

opportunities to reduce the upstream consumption emissions of projects by employing more sustainable materials that were repaired or reused. These GHG emission reductions, however, are not under the jurisdictional control of the City cannot be counted towards Pinole's 2030 and 2045 targets.

SW-4: Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.

Measure SW-4 aims to enhance the Pinole-Hercules Water Pollution Control Plant (WTP) to divert organic waste from the landfill. Currently, the WTP removes biosolids and sanitizes the wastewater, then discharges the clean wastewater into the San Pablo Bay and pumps the biosolid materials into anaerobic digesters. The digesters in turn generate methane gas which is used to power on-site cogeneration to provide electricity to the WTP and to heat the digesters. This Measure intends to analyze and establish ways for the City to divert these biosolids to reduce the methane emissions associated with its anaerobic decomposition at the WTP. While this Measure will produce GHG emission reductions once implemented, it is not quantified in this CAAP due to the high potential to double count GHG emission reductions with Measure SW-1. This Measure does however directly support Measure SW-1's goal to reduce landfilled organic waste 75 percent as biosolids which are anaerobically digested or composted and applied to lands constitute a reduction in landfill disposal per the California Code of Regulations Section 18983.1(b)(6)(B).⁵⁴

SW-5: Establish a new program to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost) by 2030.

Measure SW-5 puts Pinole on a path to meet the City's SB 1383 procurement target by 2030 and maintain it thereafter. SB 1383 requires each jurisdiction in California to procure recovered organics waste products to meet annual procurement targets developed by CalRecycle.⁵⁵ Recovered organic waste products include compost, mulch, renewable energy generated from anaerobic digestion (e.g., transportation fuel, electricity, and gas for heating), and electricity generated from biomass conversion. While a jurisdiction has the option to procure any combination of recovered organic waste products to fulfill 100 percent of its procurement target, Pinole aims to meet their procurement target primarily through the procurement of compost to leverage the carbon sequestration benefits it provides when applied to community lands. The primary Actions that enable this Measure include:

- Action SW-5a which commits the City to establish a program to procure and provide compost for City parks, City recreation areas, schools, and community gardens as well as residential and commercial landscapers;
- Action SW-5b and Action SW-5f which directs the City to amend the franchise agreements with the City's waste hauler(s) to provide recovered organic waste products back to the City and community at reduced costs; and,

⁵⁴ California Code Regulations. Title 14 § 18983.1. Accessed at: <https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-7-department-of-resources-recycling-and-recovery/chapter-12-short-lived-climate-pollutants/article-2-landfill-disposal-and-reductions-in-landfill-disposal/section-189831-landfill-disposal-and-recovery>.

⁵⁵ CalRecycle. Procurement Targets and Recovered Organic Waste Products. Accessed at: <https://calrecycle.ca.gov/organics/sllcp/procurement/recoveredorganicwasteproducts/>.

- Action SW-5c which commits the City to establish a program to deliver compost to local schools and community organizations and expand free compost giveaways to residents, local urban farmers, and other organizations.

These Actions will allow the City to establish the supply and procurement of compost to meet their annual procurement targets. Table 42 shows the parameters and data sources that support the annual procurement targets and landfilled organic waste reduction GHG emission reductions associated with this Action. Table 43 shows the calculations as outlined in Equation 18 through 18.1.

Compost Procurement Equations

Equation 18 $CO_2e \text{ Sequestration}_y = (Compost \text{ Required}_y / CF_{OW \text{ to Compost}} * CSF_{OW}) * Compliance \text{ Target}_y$

Equation 18.1 $Compost \text{ Required}_y = Population_y * (Procurement \text{ Required/Capita}) * CF_{OW \text{ to Compost}}$

Table 42 Compost Procurement Parameters and Data Sources

Variable	Definition	Value	Unit	Data Source
Equation 18				
$CO_2e \text{ Sequestration}_y$	Carbon sequestered from compost procurement and application	See calculation table	MT CO ₂ e	Calculated
$Compost \text{ Required}_y$	Compost procurement required to meet organic waste procurement target	See calculation table	compost tons	Calculated
$CF_{OW \text{ to Compost}}$	Conversion factor for organic waste feedstock to compost	0.58	compost tons/feedstock tons	CalRecycle's Procurement Calculator Tool ¹
CSF_{OW}	Carbon sequestration factor for mixed organic waste feedstock application	0.23	MT CO ₂ e/feedstock ton	CARB's Method for Estimating Greenhouse Gas Emission Reductions from Diversion Of Organic Waste from Landfills to Compost Facilities ²
$Compliance \text{ Target}_y$	Compliance target with procurement requirement	See calculation table	percentage	Estimated based on compliance with CalRecycle's required activities for SB 1383 compliance. ³
y	Year	2030 or 2045	N/A	N/A
Equation 18.1				
$Population_y$	Forecasted population	See calculation table	persons	Forecast
$Procurement \text{ Required/Capita}$	Organic waste procurement required per capita	0.08	feedstock tons/person	CalRecycle's Procurement Calculator Tool ¹

¹ CalRecycle. Procurement Calculator Tool. Accessed at: <https://calrecycle.ca.gov/organics/slcp/reporting/>.

² CARB. Method for Estimating Greenhouse Gas Emission Reductions from Diversion Of Organic Waste from Landfills to Compost Facilities (2017). Accessed at: <https://ww2.arb.ca.gov/sites/default/files/classic/cc/waste/cerffinal.pdf>.

³ CalRecycle. SB 1383 Jurisdiction Responsibilities.

Table 43 Landfilled Organics Reduction GHG Emission Reduction Calculations

Variable	Definition	Units	2030	2045
Equation 18.1				
<i>Population_y</i>	Forecasted population	persons	23,110	27,845
<i>Compost Required_y</i>	Compost procurement required to meet organic waste procurement target	tons	1,073	1,292
Equation 18				
<i>Compliance Target_y</i>	Compliance target with procurement requirement	percentage	100%	100%
<i>CO₂e Sequestration_y</i>	Carbon sequestered from compost procurement and application	MT CO ₂ e	425	513

6 Strategy W: Water

The City of Pinole’s Water Strategy aims to reduce the community’s water consumption and increase the community’s use, supply, and access to recycled water. Water use generates GHG emissions through the consumption of energy to transport, treat, and distribute water. The interconnection between energy and water is considered the water-energy nexus. Reducing potable water consumption would, therefore, also reduce energy use and the associated GHG emissions of that energy. Additionally, increasing recycled water use can reduce the GHG emission impact of upstream water processes. When compared to the processes used for “new” water—such as the extraction of water pumped and delivered long distances with energy—the processes used to recycle water can utilize less energy and less GHG emissions. Based on this approach, the CAAP’s Water Strategy consists of the following Measures presented in Table 44. Each Measure is supportive (i.e., no GHG emission reductions have been attributed) due to the potential for indirect GHG emission reductions and the potential to double count GHG emissions with Measure BE-4. The following subsections detail the role of these supportive Measures.

Table 44 Strategy W: Water GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy W: Water			
W-1	Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.	Supportive	Supportive
W-2	Increase the community’s use, supply, and access to recycled water.	Supportive	Supportive
Total		0	0

W-1: Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.

Measure W-1 aims to reduce per capital potable water consumption by 10 percent by 2030 and 25 percent by 2045 from 2017 levels. The Center for Water-Energy Efficiency has begun demonstrating the quantifiable value of water conservation for GHG emission reductions. Specifically, the Center found that during the Governor’s Mandate (i.e., between June 2015 and May 2016), California saved 524,000 million gallons of water which translated to 1,830 gigawatt hours of electricity savings and 521,000 MT CO₂e of GHG emission reductions.⁵⁶ While this demonstrates how reducing water consumption can reduce the electricity used to distribute and treat water in Pinole, these GHG emission reductions are not quantified under this Measure due to the high potential to double count with Measure BE-4’s GHG emission reductions for renewable and carbon-free electricity. This Measure does still, however, directly support Measure BE-4 by reducing the amount of energy used to distribute water and treat wastewater.

⁵⁶ Center for Water-Energy Efficiency, University of California, Davis. Impact of Water Conservation on Electricity Consumption and GHG Emissions. Accessed at: https://cwee.ucdavis.edu/research/waterconservation_energyghg/#:~:text=The%20study%20showed%20the%20state,tons%20of%20carbon%20dioxide%20equivalents.

W-2: Increase the community's use, supply, and access to recycled water.

Measure W-2 aims to increase the community's use, supply, and access to recycled water. A study by the University of California, Los Angeles Field of Public Health found that increasing the use of recycled water in California would have the greatest potential to reduce energy use and GHG emissions when compared to other water resilience options such as banning landscape irrigation.⁵⁷ While this demonstrates how increasing recycled water use in Pinole can reduce the electricity used to extract and transport water to Pinole, these GHG emission reductions are not quantified due to the potential to double count with the State's transition to renewable and carbon-free electricity that is already captured in Pinole's adjusted forecast.

⁵⁷ Sokolow, Sharona et al. Impacts of Urban Water Conservation Strategies on Energy, Greenhouse Gas Emissions, and Health. Accessed at: <https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2016.303053>.

7 Strategy CS: Carbon Sequestration

The City of Pinole's Carbon Sequestration Strategy aims to increase both nature-based and technological carbon sequestration within the community. While most of Pinole's mitigation strategies focus on reducing GHG emissions, the Carbon Sequestration Strategy focuses on the physical removal of carbon from the atmosphere to store it in long-term forms. This Strategy plays an important role in achieving Pinole's 2045 target for carbon neutrality. While Pinole will reduce GHG emissions across all sectors to achieve as close to zero GHG emissions as possible, some GHG emissions are expected to remain under the City's jurisdiction in 2045. These GHG emissions are expected to be from hard-to-decarbonize sectors, such as long-haul transportation, that have technological limitations or are costly to decarbonize. They can also be expected from sectors that require significant behavior change to decarbonize, such as VMT reduction, because it takes time to normalize new behaviors. Carbon sequestration will offset these remaining GHG emissions to help Pinole achieve carbon neutrality. While these strategies are not quantified in this CAAP, they are important to implement now to begin setting the foundation and building the capacity for Pinole to sequester carbon for long-term carbon neutrality. Based on this approach, the CAAP's Carbon Sequestration Strategy consists of the Measures presented in Table 45. Each Measure is supportive due to data limitations. The following subsections detail the role of these supportive Measures.

Table 45 Strategy CS: Carbon Sequestration GHG Emission Reduction Summary

Measure ID	Measure	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy CS: Carbon Sequestration			
CS-1	Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan.	Supportive	Supportive
CS-2	Increase nature-based and technological carbon sequestration opportunities in Pinole.	Supportive	Supportive
Total		0	0

CS-1: Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan.

Measure CS-1 aims for Pinole to increase their carbon sequestration capacity through urban forest management. Although this Measure is not counted towards Pinole's 2030 and 2045 targets due to data limitations, it is an important Measure to build future carbon sequestration capacity and provide co-benefits to the community. By conducting a tree inventory and establishing forest management plans now, Pinole will begin to establish the data needed to quantify carbon sequestration from tree management as trees mature and establish policies to be finetuned later.

CS-2: Increase nature-based and technological carbon sequestration and capture opportunities in Pinole.

Measure CS-2 aims to increase Pinole's capacity for nature-based and technological carbon sequestration. Although this Measure is not counted towards Pinole's 2030 and 2045 targets due to the potential for indirect carbon sequestration, it is an important Measure to build future carbon sequestration capacity. Establishing large-scale nature-based carbon sequestration opportunities will require upfront inventories, plans, and partnerships to identify environments for projects and design projects. Likewise, establishing large-scale technological carbon sequestration will require a significant amount of research and development to identify and pilot technologies in Pinole as well as a significant amount of investment to bring in such technologies and partners. Establishing these plans now will pave the way for future carbon sequestration and quantification.

8 Municipal Mitigation Strategies

The City of Pinole's Municipal Mitigation Strategies focus on decarbonizing the City's municipal operations and building the City's internal capacity to implement and monitor implementation of the CAAP throughout the community. While the strategies to decarbonize municipal operations—including municipal building energy, transportation, waste, and wastewater operations—will reduce GHG emissions, these emissions are already included as a subset within Pinole's Community GHG Inventory. This means the associated GHG emission reductions are included within the community mitigation Measures (i.e., BE-1 through CS-2). Thus, to avoid double counting, these municipal mitigation strategies are not counted towards Pinole's 2030 and 2045 targets. Based on this approach, the CAAP's municipal mitigation strategies consist of the following Strategies and Measures presented in Table 46. The table indicates that all Measures are supportive.

Table 46 Municipal Strategies GHG Emission Reduction Summary

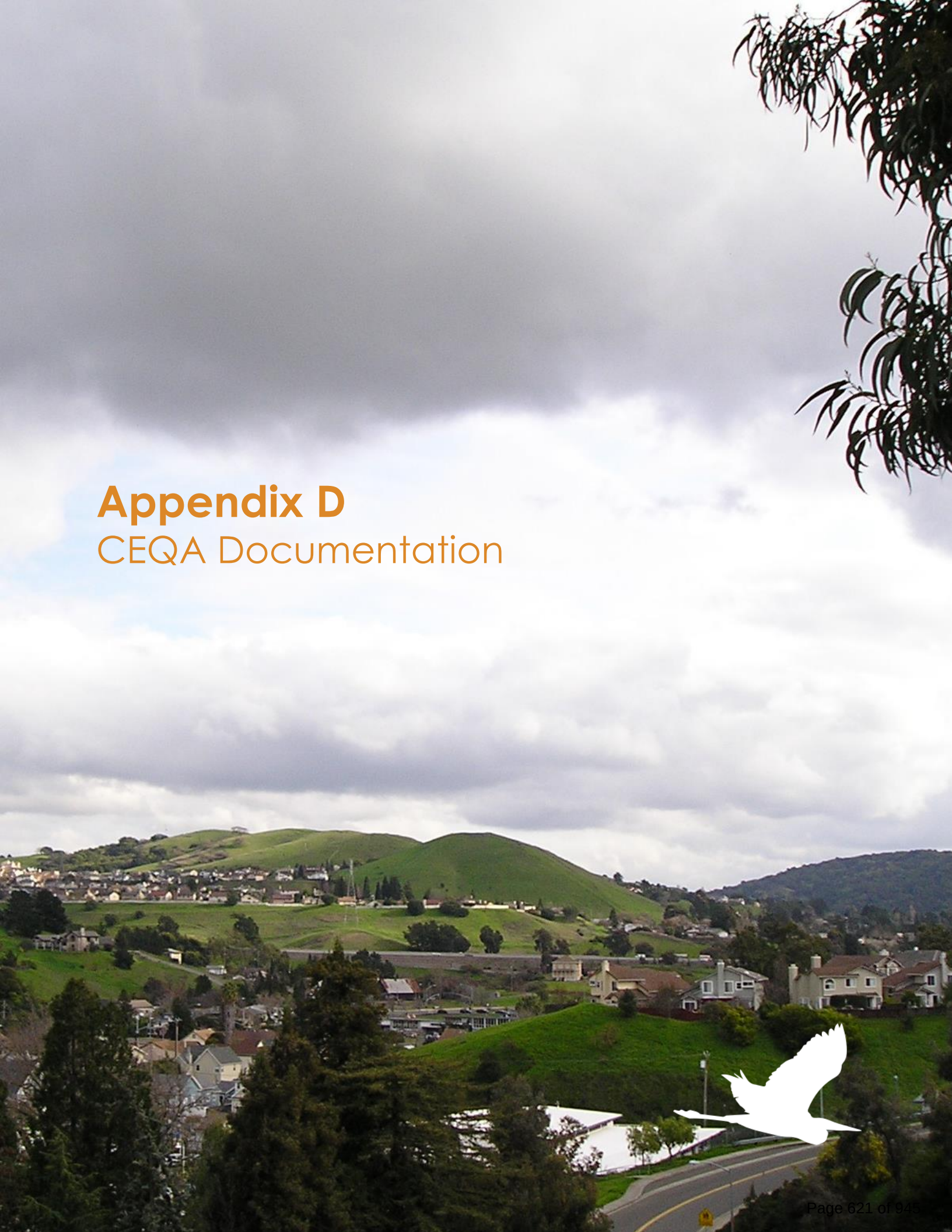
Measure ID	Measure Text	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy CIO: City Infrastructure and Operations			
Measure CIO-1	Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.	Supportive	Supportive
Measure CIO-2	Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.	Supportive	Supportive
Measure CIO-3	Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.	Supportive	Supportive
Measure CIO-4	Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.	Supportive	Supportive
Measure CIO-5	Reduce municipal water consumption 15% by 2030, from 2019 levels.	Supportive	Supportive
Measure CIO-6	Reduce organic waste by 10% by 2025, from 2019 levels and landfill zero waste by 2035.	Supportive	Supportive
Measure CIO-7	Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.	Supportive	Supportive
Strategy CG: City Governance			
Measure CG-1	Build staffing capacity to effectively implement the CAAP Mitigation Measures and update the CAAP triennially.	Supportive	Supportive
Measure CG-2	Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.	Supportive	Supportive
Total		0	0

9 Adaptation Strategies

The City of Pinole’s Adaptation Strategies focus on adjusting the community to climate impacts and increasing the community’s ability to anticipate, prepare for, and recover from hazardous events strengthened and made more frequent by climate change. While these strategies will not result in direct GHG emission reductions, they will support the mitigation strategies by building a strong, connected community that can implement them. Based on this approach, the CAAP’s Strategies to adapt to climate change consist of the following Strategies and Measures presented in Table 47. The table indicates that all Measures are supportive.

Table 47 Adaptation Strategies GHG Emission Reduction Summary

Measure ID	Measure Text	2030 GHG Emission Reductions (MT CO ₂ e)	2045 GHG Emission Reductions (MT CO ₂ e)
Strategy CAR: Community Adaptation and Resilience			
Measure CAR-1	Establish a reliable and dependable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.	Supportive	Supportive
Measure CAR-2	Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.	Supportive	Supportive
Measure CAR-3	Create an innovative Local Hazard Mitigation Plan (LHMP) to improve Citywide disaster preparedness, plan collaboratively, increase resilience, protect infrastructure and assets, and access available funding.	Supportive	Supportive
Strategy FL: Flood Control			
Measure FL-1	Improve the quality of and reduce the quantity of stormwater runoff through a variety of natural and built infrastructure projects.	Supportive	Supportive
Strategy SLR: Sea Level Rise			
Measure SLR-1	Create, restore, and protect natural shoreline ecosystems.	Supportive	Supportive
Strategy EH: Extreme Heat			
Measure EH-1	Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.	Supportive	Supportive
Measure EH-2	Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.	Supportive	Supportive
Strategy WF: Wildfire			
Measure WF-1	Enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers	Supportive	Supportive
Total		0	0



Appendix D

CEQA Documentation



City of Pinole Climate Action and Adaptation Plan and CEQA GHG Emissions Thresholds

Final Initial Study – Negative Declaration

prepared for

City of Pinole

Community Development Department

2131 Pear Street

Pinole, California 94564

prepared by

Rincon Consultants, Inc.

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Oakland, California 94612

July 31, 2024

Table of Contents

Initial Study	1
Proposed Plan Title	1
Lead Agency/Plan Sponsor and Contact	1
Plan Location and Physical Setting	1
Existing Sustainability Setting	4
General Plan Designation and Zoning	14
Description of Plan	14
Cumulative Projects Scenario	56
Required Approvals	56
Environmental Factors Potentially Affected	58
Determination	58
Environmental Checklist	60
1 Aesthetics	60
2 Agriculture and Forestry Resources	66
3 Air Quality	69
4 Biological Resources	74
5 Cultural Resources	79
6 Energy	81
7 Geology and Soils	84
8 Greenhouse Gas Emissions	88
9 Hazards and Hazardous Materials	92
10 Hydrology and Water Quality	97
11 Land Use and Planning	101
12 Mineral Resources	103
13 Noise	104
14 Population and Housing	108
15 Public Services	110
16 Recreation	112
17 Transportation	114
18 Tribal Cultural Resources	117
19 Utilities and Service Systems	120
20 Wildfire	125
21 Mandatory Findings of Significance	127
References	129
1. List of Preparers	132

Tables

Table 1 Pinole 2017 Communitywide GHG Emissions Levels16

Table 2 Pinole CAAP GHG Emissions Reduction and Climate Adaptation Strategies, Measures, and Actions17

Table 3 Pinole 2030 GHG Emissions Forecasts (MT of CO₂e)52

Table 4 Targets Versus GHG Reductions53

Table 5 Cumulative Projects Scenario56

Figures

Figure 1 Regional Location2

Figure 2 Plan Location3

Figure 3 Pinole Transit Routes4

Figure 4 Pinole GHG Emissions Projections and Targets52

Figure 5 Determining CEQA GHG Emissions Analysis Methodology55

Appendices

Appendix A Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Appendix B Description of Greenhouse Gases of California Concern

Initial Study

Proposed Plan Title

City of Pinole Climate Action and Adaptation Plan (CAAP) and California Environmental Quality Act (CEQA) Greenhouse Gas (GHG) Emissions Thresholds

Lead Agency/Plan Sponsor and Contact

Lead Agency/Plan Sponsor

City of Pinole
Community Development Department
2131 Pear Street
Pinole, California 94564

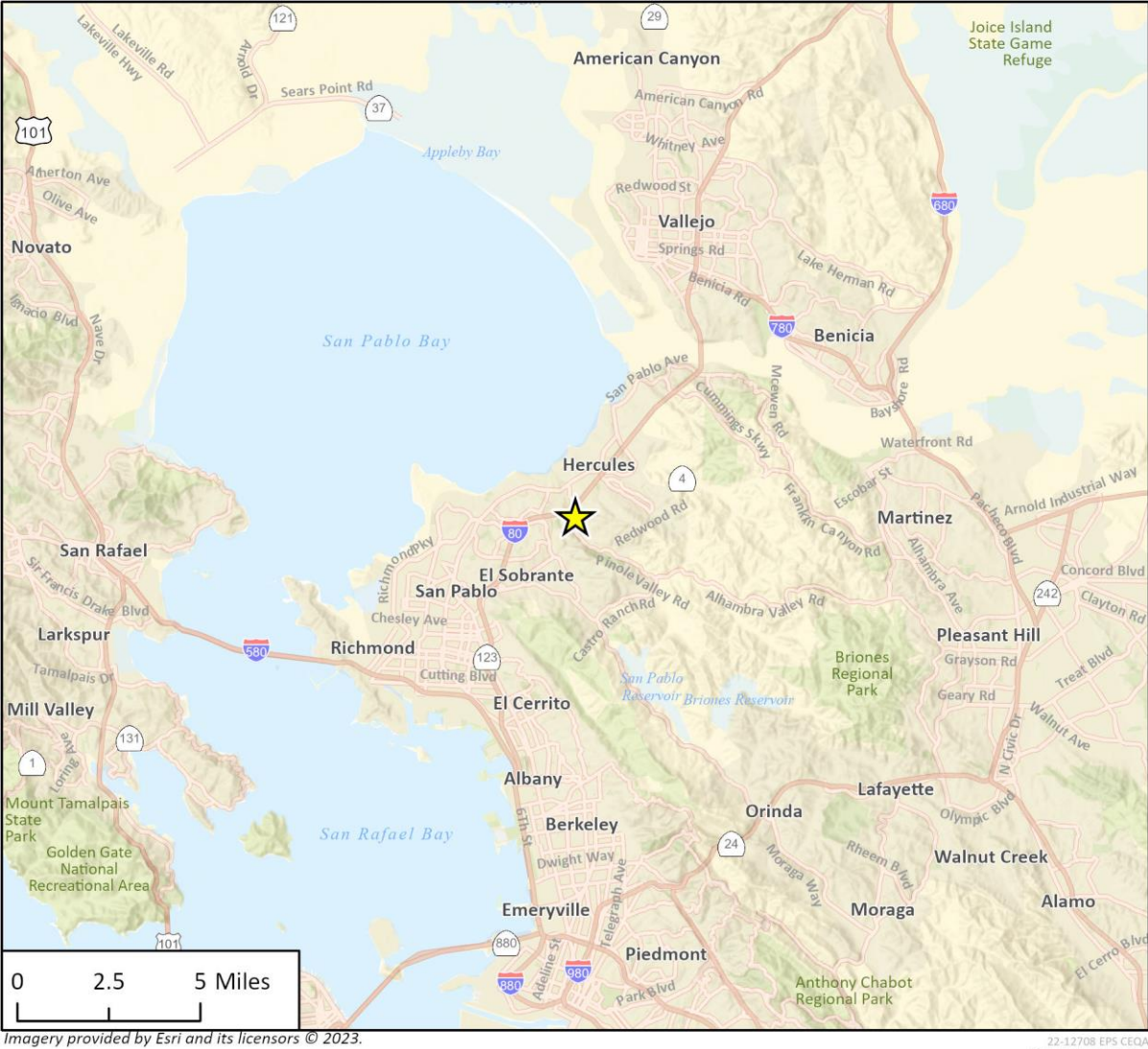
Contact Person

Lilly Whalen
Community Development Director
(510) 724-9832
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Plan Location and Physical Setting

The Pinole CAAP and CEQA GHG Emissions Thresholds would apply to all areas and plans and projects within the City of Pinole limits. Figure 1 shows the regional location, and Figure 2 shows the plan location.

Figure 1 Regional Location



★ City of Pinole

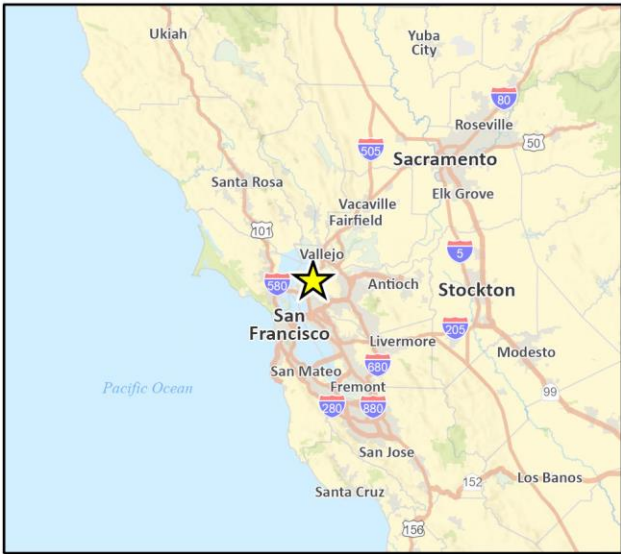
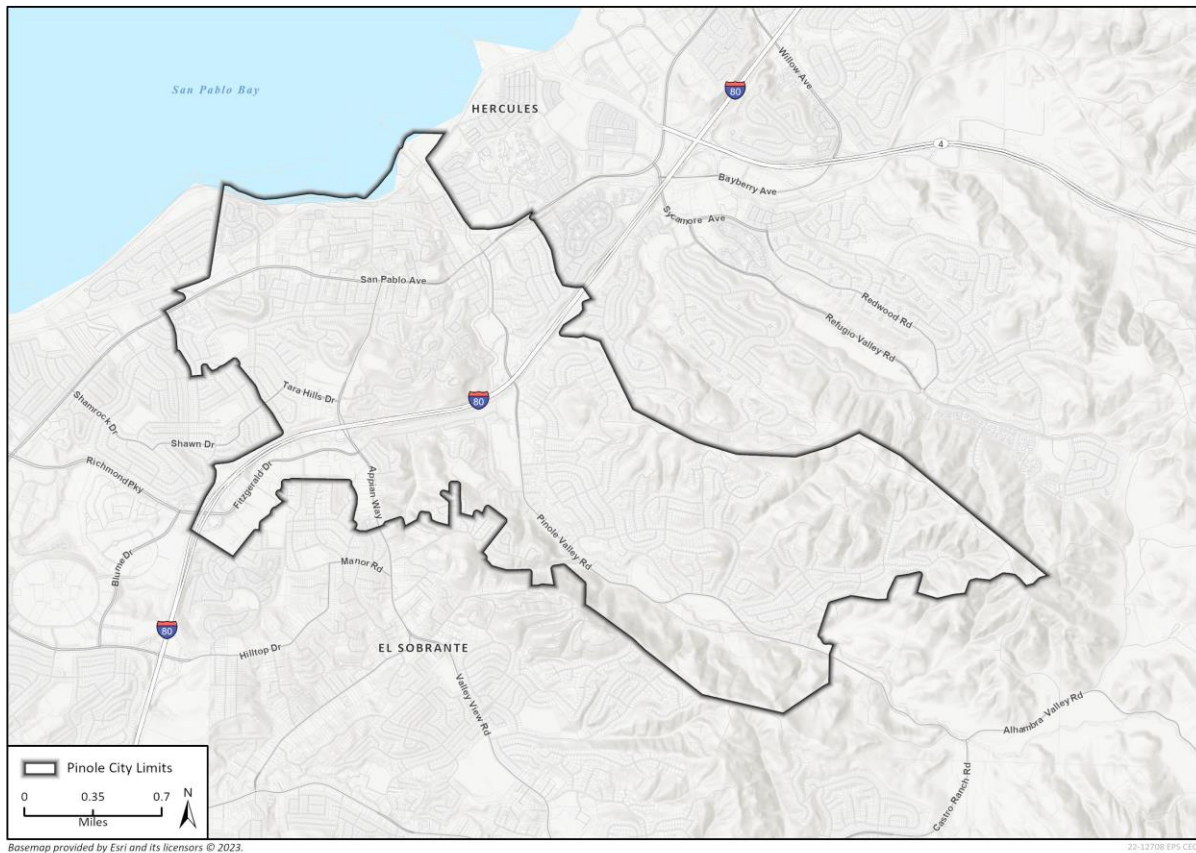


Figure 2 Plan Location

Regional Location and Setting

The City of Pinole is approximately 12 square miles and located in Contra Costa County, within the east San Francisco Bay area. Pinole is bordered by Richmond and San Pablo to the southwest, Hercules to the northeast, the unincorporated area of El Sobrante to the south, and the San Pablo Bay to the west. The City is connected to the rest of the County and the Bay Area by State Route 4 (SR 4) and Interstates 80 (I 80), which traverse the City. These freeways provide regional access to Pinole, which is also served by public transit facilities, including the Western Contra Costa Transit Authority (WestCAT) bus lines. Transit routes in Pinole are shown in Figure 3. In addition, nearby airports include the Buchanan Field Airport, which is located over 12 miles to the east.

Local Setting

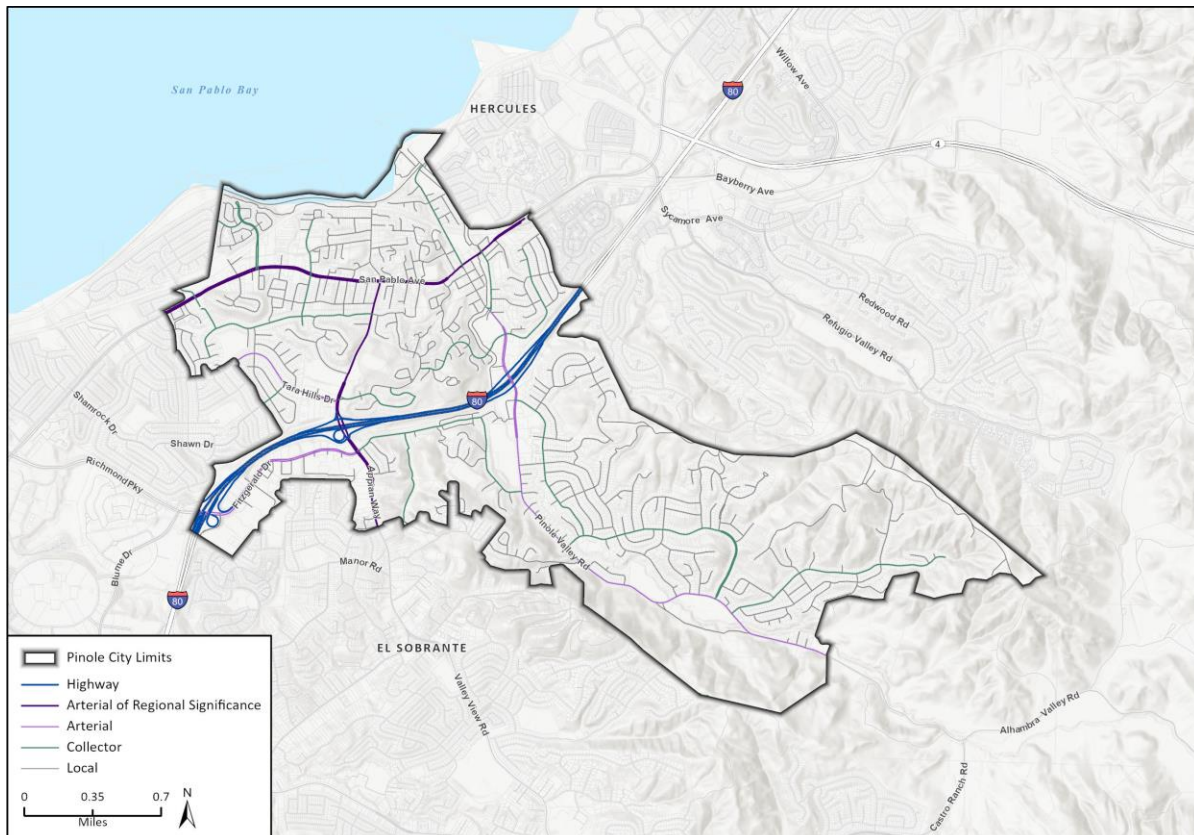
Pinole had a population of 18,244 in 2023 according to the California Department of Finance (DOF).¹ According to the General Plan,² the City's existing land use pattern is generally a mix of residential neighborhoods and commercial and business centers combined with parks and open spaces. Although the City of Pinole is largely built out, it includes opportunities for infill mixed-use

¹ California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates. <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/> (accessed January 2024).

² Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

development in a strategically located area near the Berkeley/Oakland and San Francisco employment centers. The City also has several distinct areas that characterize the City and surrounding area, including the Historic Old Town area north of I 80 that contains historic residences built for individuals who worked in Pinole or at the Hercules Powder Plant during the City's formative years as well as a commercial and business core that contains important civic and recreational facilities; Pinole Vista and Pinole Ridge Shopping Center, a regionally serving shopping district along Fitzgerald Avenue between the Richmond Parkway and Appian Way exits of Interstate 80; and Pinole Valley, an area that includes community serving retail, Pinole Valley High School, and residential areas with access provided primarily by Pinole Valley Road.³

Figure 3 Pinole Transit Routes



Basemap provided by Esri and its licensors © 2023.

22-12708 EPS CEQA
Fig 3 Major Roadways

Existing Sustainability Setting

Pinole Sustainability and Greenhouse Gas Emissions Reduction Efforts

The City has actively implemented a variety of environmental programs contributing to GHG emissions reductions. The following is a list of Pinole's primary sustainability and climate protection programs and policies:

- Pinole Creek Watershed Vision Plan (2004)

³ Pinole, City of. 2010. General Plan, Introduction. https://cdnsnm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf (accessed January 2024)

- General Plan – Sustainability Element (2010)
- Three Corridors Specific Plan (2010)
- Pinole Green Infrastructure Plan (2019)
- Climate Resolution (2021)
- Pinole Economic Development Strategy (2022)
- Updated Community Inventory and Prepared Municipal Inventory, as well as community forecast and targets (2022)
- Capital Improvement Plan (2024)

The City has also taken several additional sustainability actions, such as initiating a municipal energy audit that will evaluate all City facilities and identify solutions for upgrades, retrofits, and replacements of existing energy systems to enhance efficiency, reduce environmental impact, and optimize resource utilization, aligning with the City's commitment to fostering sustainable practices and minimizing its carbon footprint. A Local Road Safety Plan is also being prepared to identify and improve corridors to make it safer and more convenient to actively commute. Pinole is also working towards banning single-use plastics for packaging consumer goods and takeout food (e.g., plastic bags and plastic foodware such as plates, cups, accessories, and cutlery) and expanding its Procurement Policy to capture more green goods and services. Additionally, The City is preparing a Draft Parks Master Plan which will include development of sustainable recreation and park development.

Regional Sustainability and GHG Reduction Efforts

In coordination with Contra Costa County, the State of California, and the federal government, the City of Pinole has committed to implementing regional and State policies related to GHG emissions reductions. As follows is a summary of the existing regional GHG emissions reduction efforts, which the Pinole CAAP is intended to be consistent with or exceed.

Plan Bay Area: Strategy for a Sustainable Region

In October 2021, the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) jointly adopted Plan Bay Area 2050, which serves as the Bay Area regional long-range plan and identifies how the Bay Area would meet its GHG emission reduction goals. Plan Bay Area is also considered the ABAG/MTC Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In accordance with Senate Bill (SB) 743, Plan Bay Area includes elements designed to encourage the type of land-use development to preserve affordable housing, improve economic mobility, enhance the transit network to reduce vehicle miles traveled (VMT) per capita, and reduce hazard risks including through adaptation to sea level rise and reducing GHG emissions.⁴

Bay Area Air Quality Management District CEQA Guidelines

In 2022, the Bay Area Air Quality Management District (BAAQMD) adopted the CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans and is in the process of updating their 2017 CEQA Guidelines.⁵ The CEQA Thresholds for Evaluating the

⁴ ABAG-MTC. 2021. Plan Bay Area 2050. <https://www.planbayarea.org/finalplan2050> (accessed November 2023).

⁵ BAAQMD. 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).

Significance of Climate Impacts from Land Use Projects and Plans include requirements for projects and plans in jurisdictions that do not have an adopted local GHG reduction strategy that meets the criteria of CEQA Guidelines Section 15183(b). In addition, according to the BAAQMD, if a project is consistent with a local GHG reduction strategy, then it can be presumed that the project will not have significant GHG impacts.⁶ This approach is consistent with CEQA Guidelines, Section 15183.5:

Lead agencies may analyze and mitigate the significant impacts of GHG emissions at a programmatic level, such as...a plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of GHG emissions.

Contra Costa Countywide Comprehensive Transportation Plan

In 2017, the Contra Costa Transportation Authority adopted the Countywide Transportation Plan (CTP), which serves as the blueprint for Contra Costa's transportation system through 2040. Five key goals have been adopted by the Contra Costa Transportation Authority for the 2017 CTP, which include: supporting the efficient, safe, and reliable movement of people and goods using all available travel modes; managing growth to sustain Contra Costa's economy, preserving its environment and supporting its communities; expanding safe, convenient, and affordable alternatives to the single-occupant vehicle; maintaining the transportation system; and continuing to invest wisely to maximize the benefits of available funding.⁷ In support of the Countywide CTP, the Contra Costa Transportation Authority has also prepared separate draft action plans for each subregion in Contra Costa County. Pinole is in the West County subregion,⁸ which encompasses the incorporated jurisdictions of El Cerrito, Richmond, San Pablo, Pinole, and Hercules, as well as unincorporated portions of western Contra Costa County. This update of the West County Action Plan has been prepared concurrently with, and in conjunction with, updates to the other four subregional action plans which will be used to determine the policies and actions that the Authority can adopt in the 2024 CTP Update which is currently being drafted and is intended to serve as the 25- year blueprint for improving transportation, reducing congestion, improving mobility, supporting a robust economy, and improving quality of life throughout Contra Costa. It is anticipated that the Draft CTP will be published in late 2024 and the Final CTP will go to the Authority Board for adoption in Spring 2025.⁹

Contra Costa County Climate Action Plan

In 2008, the County adopted its first Municipal Climate Action Plan¹⁰ identifying strategies to make government operations more sustainable. The Municipal Climate Action Plan identified thirteen existing and planned GHG reduction measures including employee carpool and vanpool programs; direct digital control for heating, ventilation, and air conditioning systems in County buildings; and

⁶ Ibid

⁷ Contra Costa Transportation Authority. 2017 Countywide Comprehensive Transportation Plan, Volume 1. September 10, 2017. <https://ccta.net/wp-content/uploads/2021/07/2017-CTP-Vol-1.2017.10.05.pdf> (accessed January 2024)

⁸ Contra Costa Transportation Authority. West County Action Plan. March 2023. https://ccta.net/wp-content/uploads/2023/03/Draft-West-County-Action-Plan_03-13-23.pdf (accessed January 2024)

⁹ Contra Costa Transportation Authority. Countywide Transportation Plan and Action Plans. 2024. <https://ccta.net/planning/countywide-transportation-plan/> (accessed January 2024)

¹⁰ Contra Costa County, California. Municipal Climate Action Plan. December 2008. <https://www.contracosta.ca.gov/DocumentCenter/View/2905/Municipal-Climate-Action-Plan-1208-Attachment-A?bidId=> (accessed January 2024)

flexible employee work schedules. The CAP was updated in 2015¹¹ to reflect legislation at that time and is currently being updated in parallel with the County's General Plan.¹²

Marin Clean Energy

Marin Clean Energy (MCE) formed in 2010 as California's first community choice energy program and currently provides electricity to more than 1.5 million residents and businesses in 37 member communities across Contra Costa, Marin, Napa, and Solano Counties. As demonstrated in MCE's 2019 Integrated Resource Plan,¹³ MCE's base energy product (Light Green) was 60 percent renewable starting in 2019 and is expected to rise to 70 percent by 2030. This would put MCE 11 years ahead of schedule in meeting Senate Bill 100's 2030 RPS targets. Additionally, MCE's GHG-free content was 100 percent in 2022, 23 years earlier than the State mandate.

State Sustainability and GHG Reduction Efforts

As follows is a summary of existing State GHG emissions reduction efforts, which the CAAP is intended to be consistent with or exceed.

GHG Reduction Policies

CALIFORNIA EXECUTIVE ORDER S-3-05

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies statewide GHG emissions reduction goals to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report"). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to meet the emission reduction targets in EO S-3-05 with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

CALIFORNIA ASSEMBLY BILL 32, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to

¹¹ Contra Costa County. Contra Costa County Climate Action Plan. December 15, 2015. <https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=> (accessed January 2024)

¹² Contra Costa County. Envision Contra Costa 2040. <https://envisioncontracosta2040.org/overview/#cap> (accessed January 2024)

¹³ Marin Clean Energy (MCE). 2018. 2019 Integrated Resource Plan. https://www.mcecleanenergy.org/wp-content/uploads/2020/01/MCE-Integrated-Resource-Plan_2019.pdf (accessed January 2024)

require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MT of CO₂e.

CALIFORNIA SENATE BILL 375, SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT

In 2008, Senate Bill (SB) 375 enhanced the State's ability to reach AB 32 targets by developing regional GHG emissions reduction goals to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments was assigned targets of a ten percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a nineteen percent reduction in per capita GHG emissions from passenger vehicles by 2035.¹⁴

CALIFORNIA CLIMATE CHANGE SCOPING PLAN

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2013)

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

CALIFORNIA EXECUTIVE ORDER B-30-15

In 2015, the California governor issued Executive Order B-30-15, which established a statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030. The EO also calls for another update to the CARB Scoping Plan.

CALIFORNIA SENATE BILL 32, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT UPDATE

In 2016, SB 32 was passed, extending AB 32 by requiring further reduction in statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

¹⁴ CARB. 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).

2016 Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires CalRecycle, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. The bill further requires 20 percent of edible food disposed of at the time to be recovered by 2025.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2017)

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383.

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.¹⁵

CALIFORNIA EXECUTIVE ORDER B-55-18

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

ASSEMBLY BILL 1279

In September 2022, AB 1279 was approved, which established a legally binding requirement for California to achieve and maintain carbon neutrality no later than 2045. Assembly Bill 1279 also established the requirement to achieve a Statewide reduction in GHG emissions of 85 percent below 1990 levels by 2045. This indicates that the remaining 15 percent to achieve carbon neutrality can be achieved via carbon sequestration and other non-direct-GHG-emissions-reductions techniques.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2022)

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB adopted the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous

¹⁵ CARB. 2017. California 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).

updates while identifying a new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action in natural working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from the governor, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.¹⁶

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

Energy- and Vehicle-Related Policies

ASSEMBLY BILL 1493, PAVLEY BILL VEHICLE EFFICIENCY STANDARDS

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the CARB to adopt standards that will achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, CARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, CARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and GHGs and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLAN OF 2008

In 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change went into effect in January 2020 with the adoption of the 2019 California Code of Regulations (CCR) Title 24 Code and is a step towards the State achieving its goal of all residential new construction being zero-net energy (ZNE) by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial buildings to be retrofitted to ZNE by 2030, and all new State buildings and major renovations to be constructed to ZNE by 2025.

¹⁶ CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023)

CALIFORNIA CODE OF REGULATIONS TITLE 24 (CALIFORNIA BUILDING CODE)

Updated every three years through a rigorous stakeholder process, Title 24 of the CCR requires California homes and businesses to meet strong energy efficiency measures, thereby lowering their energy use. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code is applicable to all development in California. (Health and Safety Code § 17950 and 18938(b).)

The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are carefully scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)). The 2022 Title 24 standards went into effect on January 1, 2023.

Part 6 – Building Energy Efficiency Standards

CCR Title 24 Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards applicable to air quality require:

- Minimum 20 percent reduction in indoor water use relative to specified baseline levels;¹⁷
- Waste Reduction:
 - Minimum 65 percent non-hazardous construction/demolition waste diverted from landfills;
 - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous

¹⁷ Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or

- Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards; and
- EV Charging for New Construction:¹⁸
 - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
 - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;
 - Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25 percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;
 - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:
 - 0-9: no EV capable spaces or charging stations required;
 - 10-25: 4 EV capable spaces but no charging stations required;
 - 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
 - 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
 - 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
 - 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
 - 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
 - More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;
 - Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;
- Bicycle Parking:
 - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or

¹⁸ EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

- Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
- **Shade Trees (Non-Residential):**
 - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
 - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or
 - Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

ASSEMBLY BILL 117, COMMUNITY CHOICE AGGREGATION

AB 117 allows the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000's. AB 117 was passed in 2002 as an answer to California's increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., Pacific Gas and Electric). MCE was the first CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. In 2017, SVCE began supplying south bay area communities, including Pinole, with options for 100 percent renewable energy-sourced electricity or electricity from a mix of renewable and non-renewable sources. CCAs are governed by the CPUC. SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

SENATE BILL 1275, CHARGE AHEAD INITIATIVE

In 2014, SB 1275 established a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directed CARB to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low- and moderate-income communities and consumers.

SENATE BILL 350, CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

In 2015, SB 350 established new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codified Governor Brown's aggressive clean energy goals and established the State 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

SENATE BILL 1020, CLEAN ENERGY, JOBS, AND AFFORDABILITY ACT OF 2022

Established in 2002 under SB 1078, and accelerated by SB 107 (2006), SB X 1-2 (2011), SB 100 (2018), and SB 1020, California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to transition the electricity supply to renewable resources. The RPS requires energy service providers to supply renewable energy as follows: 90 percent of retail sale electricity and 100 percent of electricity procured to serve state agencies by 2035, 95 percent by 2040, and 100 percent by 2045. The CPUC and the CEC are jointly responsible for implementing the program.

Other GHG Emissions-Related Policies

ASSEMBLY BILL 197, STATE AIR RESOURCES BOARD GHGs REGULATIONS

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over CARB and directs CARB to prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires CARB to protect the State's most impacted and disadvantaged communities [and] consider the social costs of the emissions of GHGs when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to CARB, increasing the Legislature's role in CARB's decisions.

SENATE BILL 97, CEQA GUIDELINES FOR ADDRESSING GHG EMISSIONS

CEQA requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

General Plan Designation and Zoning

The Pinole CAAP and CEQA GHG Emissions Thresholds would be implemented throughout the City and would occur in all General Plan designations and in all zoning designations.

Description of Plan

Pinole CAAP

The City of Pinole CAAP was developed to achieve a resilient and climate-ready community and support regional, State, and global climate goals through achieving the City's 2030 and 2045 climate action targets. The City's GHG targets were developed relative to the 2017 Community GHG emissions by back-casting to 1990. This back-cast utilized the change in statewide GHG emissions between 2017 and 1990 as a proxy for change in Pinole during the same period.¹⁹ The estimated 1990 GHG emissions were then reduced by 40 percent to establish a 2030 target for the City and

¹⁹ The City of Pinole's 1990 GHG emissions were estimated to be [78,982](#) MT CO₂e based on a nine percent increase in state GHG emissions seen between 2017 and 1990.

reduced to zero to establish a 2045 target for the City. The targets, established as follows, remain consistent with the State’s 2030 and 2045 goals:

- Reduce GHG emissions to 47,389 MT CO₂e by 2030 (the SB 32 target year)
- Reduce GHG emissions to 0 MT CO₂e by 2045 (the AB 1249 target year)

The CAAP provides a foundation for future sustainable development efforts in Pinole, and it is anticipated that environmental review documents for future development projects would identify and incorporate applicable GHG reduction measures and actions from the CAAP. The CAAP addresses communitywide GHG emissions and includes a discrete target for Pinole to reach maximum emissions of 47,389 CO₂e by 2030. The CAAP includes a summary of the emissions inventory and forecast, measures and actions to achieve the City’s climate mitigation and resilience goals and focuses on actions through 2030 for purposes of meeting the City’s 2030 GHG emission target.

The 2017 GHG emissions inventory provides the basis for emissions forecasts for the years 2025, 2030, 2035, 2040, and 2045. The GHG emissions inventory was completed in compliance with all relevant protocols and guidance documents, including U.S. Community Protocol, Local Government Operations Protocol, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. In 2017, Pinole’s total GHG emissions were estimated to be 73,513 MT of CO₂e. GHG emissions in the inventory are categorized based on sectors. These sectors include off-road vehicles and equipment, solid waste, water and wastewater, on-road transportation, residential energy use, and nonresidential energy use. Table 1 provides the summary of Pinole’s 2017 GHG emissions by sector, as well as each sector’s percentage of communitywide emissions.²⁰ As shown therein, the largest GHG emissions are related to transportation and building energy use.

²⁰ Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.

Table 1 Pinole 2017 Communitywide GHG Emissions Levels

GHG Emissions Sector/Source	CO ₂ e (MT)	Percent of Total Emissions
Residential Energy	21,878	30
Electricity	3,738	5
Natural Gas	18,140	25
Nonresidential Energy	11,210	16
Electricity	5,918	8
Natural Gas	5,291	7
On-road Transportation	30,483	42
Off-Road Equipment	5,236	7
Water and Wastewater	166	<1
Solid Waste	3,300	5
Total	72,273	100

CO₂e = carbon dioxide equivalent; MT = Metric Tons

Source: Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.

Note: Values may not add up due to rounding.

The Pinole CAAP establishes a target to reduce communitywide GHG emissions to 40 percent below 1990 levels by 2030 (47,389 MT of CO₂e), which aligns with the SB 32 State GHG emissions target, consistent with CEQA for a qualified GHG emissions reduction strategy and to be achievable by City-supported measures and actions identified in the Pinole CAAP. The CAAP includes a business-as-usual (BAU) forecast and an adjusted BAU (ABAU) forecast of GHG emissions, based on the 2017 inventory, which enables Pinole to estimate the emissions reductions required to meet its communitywide reduction targets.

The Pinole CAAP is organized into 13 strategies for GHG emissions reduction and climate adaptation, each of which includes measures and actions. These strategies focus on clean electricity, building decarbonization, transportation decarbonization and sustainable land use planning, solid waste and water use reductions, community engagement, and climate adaptation. Table 2 includes a complete list of the strategies, measures, and actions established by the City for inclusion in the CAAP, as well as anticipated annual GHG reductions attributable to mitigation-related measures in 2030. Measures that focus on adaptation will note “Not Applicable” or “N/A” in the emissions reduction quantification column below.

Table 2 Pinole CAAP GHG Emissions Reduction and Climate Adaptation Strategies, Measures, and Actions

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy CR: Cornerstone to Climate Action and Adaptation Planning		
Measure CR-1. Leverage the CAAP's work around electrification, transportation infrastructure buildout, organic waste diversion, and carbon sequestration to establish Pinole as a center for green economic development and high-road jobs.		
CR-1a	Coordinate with the City's Economic Development staff to review and update the Pinole Economic Development Strategy every three years (2026/28, 2029/31, 2032/34, etc.) and adjust fees to specifically attract green and clean energy businesses to Pinole by reflecting changing economic trends, evolving community needs, and emerging opportunities. Include an annual review of the fee schedules (including a survey of competitor's fees) to assess their impact on green businesses.	2030: N/A 2045: N/A
CR-1b	Work with the City's Economic Development staff to perform direct outreach to existing Pinole businesses to identify climate change impacts (e.g., climate hazards, increasing water and natural gas costs, etc.) that may affect the long-term viability and growth of existing core industries and small business. Include regional green and clean energy businesses in a "short list" of industries to focus these initial outreach and business retention efforts during Phase 1.	
CR-1c	In partnership with organizations such as the Workforce Development Board of Contra Costa County or Contra Costa College, create a green workforce development program to connect Pinole residents to workforce development training courses for climate industries with high-road jobs. Additionally, use the program to develop a network of local professional associations active in Pinole and to incorporate green workforce development training courses into the periodic "Pinole Workforce Development Consortium" meetings identified in the Economic Development Strategy. Focus this program on members of the most disadvantaged and vulnerable communities in the City and track enrollment and success rate by zip code to monitor the reach and distribution of the initiative.	
CR-1d	Partner with the Contra Costa County Green Business Program to help small- and medium-sized businesses in Pinole minimize their impact on the environment and increase the number of certified Green Businesses in Pinole.	
CR-1e	Create a Green Technology Incubator in partnership with the Workforce Development Board of Contra Costa County, Contra Costa College, the Renaissance Entrepreneurship Center, the East Bay Economic Development Alliance, or similar partners, to help startups and companies working on innovative solutions for climate-related challenges to succeed in the market. The Green Technology Incubator would provide access to funding through identification and partnership opportunities for grants, technical assistance, networking support, and community exposure.	
CR-1f	Incentivize optimal use of properties with a water view by adoption of Municipal Code Amendments allowing for height exceptions for mixed use developments that include top-floor restaurants that are dense, transit rich and connected to Pinole's growing active transportation network.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CR-1g	Based on the findings and recommendation of the broadband feasibility study, a subsidy or grant program may be developed to improve existing infrastructure of multi-family units (i.e., upgrade internal wiring etc.) to update policies to increase Pinole residents' work-from-home rate, including incorporating work-from-home strategies into the Transportation Demand Management standards of Action TR-3a.	
CR-1h	Explore locations within the City to create a plan to develop a climate resilience district. The district would receive focused City resources, support, partnerships with local businesses, and engagement to develop resilient communities. Examples could include the Pinole Valley area to focus on funding projects related to wildfire risk, for example.	
Strategy BE: Building Energy		
Measure BE-1. Electrify 100% of new construction in the City by 2024.		
BE-1a	Adopt a single margin source energy score or more stringent ordinance in 2024 to avoid new natural gas construction.	2030: 1,509 2045: 5,962
BE-1b	Partner with organizations such as MCE, Bay Area Regional Energy Network (BayREN), the Building Decarbonization Coalition and the U.S. Green Building Council (USGBC) to compile a suite of case studies (e.g., document/guide on all-electric best practices and examples applicable to Pinole or the Bay Area) and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype. Provide digital copies on the City's website and hard copies at City Hall for residents and business owners to review and utilize.	
BE-1c	Partner with organizations such as MCE, BayREN, the Building Decarbonization Coalition, and USGBC to educate building owners, developers, and contractors on the cost savings, environmental benefits, and versatility associated with all-electric construction, as well as the advantages all-electric construction provide for United States Green Building Council LEED certification. Utilize the case studies and cost-effective strategies as well as existing resources such as those provided by MCE as educational materials and share the information on the City's website, at City events (such as Dumpster Day and Earth Walk), and at the City's permit counter.	
BE-1d	Partner with PG&E to conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification and identify infrastructure improvements (including local renewable energy and storage projects) to increase capacity to meet demand. During this process, work with MCE to provide projections on load changes due to electrification.	
BE-1e	Partner with MCE, the WFDCCC and/or other organizations to host regular workforce development trainings for installers, local contractors, and building owners/operators. Trainings would provide financial resources and technical requirements, including information on new electric appliances and approaches to electrification. Partner with community-based organizations to connect members of vulnerable communities to these training programs in plain language and in a culturally appropriate manner.	
BE-1f	Advocate for regional policy and programs that allow for utility rates that are supportive of electrification (i.e., electricity rates lower than natural gas rates).	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Measure BE-2. Electrify existing residential buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.		
BE-2a	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for residential buildings. <i>The ordinance would apply to projects after calendar year 2024. The ordinance would be implemented through the building permit process.</i>	2030: 4,778 2045: 19,273
BE-2b	After calendar year 2024, include major renovations (i.e., projects that affect over 50% of the building, add an additional 50% of gross floor space to the building, or value more than 50% of the assessed value of the property at time of application submittal) in the all-electric new building requirements.	
BE-2c	Complete a residential existing building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers). This information will be used to inform and support future updates to the existing building electrification ordinances as well as the building electrification resource center (Action BE-2e).	
BE-2d	Partner with Contra Costa County to create a virtual all-electric building resource center to provide residents information on available electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs and on-bill financing, and equipment and labor warranties.	
BE-2e	As part of the building electrification resource center, provide free assessments to rental and multi-family properties, as well as seniors and residents living on low incomes.	
BE-2f	Partner with MCE and PG&E to review incentives, rebates, and on-bill financing options for procedural equity and then update the incentives to remove the identified barriers.	
BE-2g	Partner with properties in Pinole that provide deed-restricted affordable housing, MCE, PG&E, and BayREN to initiate and complete an affordable housing electrification pilot project. Project will implement energy efficiency strategies to mitigate increased energy bills for occupants. Promote the pilot project as a case study for future projects in the City.	
BE-2h	Work with MCE and PG&E to conduct a cost-effectiveness study and design electricity and natural gas billing rates that make electrification the most cost-effective option to reduce energy bill burdens for residents living on low and medium incomes.	
BE-2i	Provide education around cooking with electric appliances and partner with local chefs and/or restaurants to host cooking demonstrations at community events such as the Farmers' Market. Integrate locally sourced food into the demonstrations to also educate community members on the GHG emission reduction and resilience benefits of local food.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-2j	Enforce ordinance compliance through a comprehensive permitting compliance program which may include, but is not limited to: ▪ Providing dedicated time for routine staff training to incorporate into existing building inspections. ▪ Imposing fees for noncompliance to offset staff costs and encouraging voluntary compliance. ▪ Establishing easy-to-understand web-based compliance checklists and permit applications. ▪ Facilitating online permitting. ▪ Providing zero-cost permit fees for heat pump installations.	
BE-2k	Develop and implement a water heater loan program where residents who are replacing their natural gas-powered water heaters with electric-powered water heaters at the end of their useful lives can borrow or rent at no cost a working natural gas water heater from the City for a limited period of time (e.g., three weeks) to use during any electrical panel upgrade requirements to install an electric water heater. Participation in this program could serve as a mechanism to support thoughtful residential transition. Consider expanding the loan program to induction stoves as well.	
BE-2l	Partner with Rising Sun, or similar entity, to continue providing “Green House Calls” to residents to recommend energy-saving appliances and programs to help offset the costs of electrification.	
BE-2m	Work with PG&E to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon-neutral buildings. Engage local developers, MCE, and vulnerable populations to assess the feasibility of adopting an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	
BE-2n	Adopt an end-of-flow ordinance that would require natural gas lines be capped and decommissioned in existing buildings by 2045.	
BE-2o	Explore the development of a revolving fund to integrate wall batteries for energy storage with Pinole’s Energy Enhancement Rebate Program, aiming to enhance energy efficiency, sustainability, and financial viability for a more resilient energy future.	
Measure BE-3. Electrify existing commercial and mixed-use (i.e., combined commercial and residential) buildings to reduce natural gas consumption 26% by 2030 and 100% by 2045.		
BE-3a	Complete an existing commercial building electrification feasibility analysis by 2024 to determine the upfront and on-bill costs associated with building electrification strategies and draw on existing ordinances from similar jurisdictions to identify barriers to replacement and permit compliance (including equity barriers).	2030: 997 2045: 5,868
BE-3b	Adopt a reach code in 2024 requiring all central air conditioning unit installations and replacements be two-way, providing both heating and cooling with a single unit for commercial and mixed-use buildings. The ordinance will be implemented through the building permit process. Track annual progress on commercial and mixed-use building electrification through the same permit tracking program developed for residential building electrification.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-3c	Evaluate the success of the Pinole Energy Enhance Rebate Program which offers additional rebates to Pinole residents for energy efficiency improvements stacked on top of federal, state, or regional rebates or discounts. Work with Contra Costa County Department of Conservation and Development to restructure the pilot program as needed. Seek annual grant funding sources to sustain and support the program through.	
BE-3d	Develop a building performance standard program to meet a specific level of energy use per square foot for all commercial and industrial buildings over 20,000 square feet. Implementation and compliance support, including resources and tools which will be implemented through four stages: 1. Pre-development phase – Stage 1 – Staff to receive technical assistance from the Building Technologies Office in the Federal Office of Energy Efficiency and Renewable Energy (EERE). Per the EERE, technical assistance may take the form of: a. Building stock analyses, including analysis of energy and emission impacts associated with building performance standard adoption b. Performance target-setting and trajectories c. Measure and technology prioritization and packaging d. Cost-effectiveness analyses 2. Data collection phase – Stage 2 – All commercial and industrial building owners with floor area over 20,000 square feet report electricity and natural gas data through energy star portfolio manager. 3. Retro commissioning phase – Stage 3 – All covered building owners complete a retro commissioning process to identify and correct system inefficiencies while identifying opportunities for electrification and downsizing of oversized equipment. 4. GHG Performance Standard – Stage 4 – Implement a building performance standard that requires buildings to meet a specific GHG performance level.	
BE-3e	Conduct targeted outreach and complete tailored campaigns during development of the building performance program (Action BE-3d) and electrification ordinance (Action BE-3b) to identify potential barriers to commercial and mixed-use electrification (including equity barriers) and educate commercial and mixed-use property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to building owners that rent or lease space to small businesses and minority-owned businesses as well as the business owners and conduct a survey to such businesses to identify specific resources needed to support an equitable building electrification.	
BE-3f	Partner with Contra Costa Health Services to provide small and minority-owned businesses/commercial property owners or property owners that rent or lease space to small or minority-owned business, electrification assessments, turn-key installations by BayREN/state vetted contractors, low up-front costs, and equipment and labor warranties through the building electrification resource center (Action BE-2e). Additionally, partner with MCE or PG&E to provide on-bill financing.	
BE-3g	Partner with the Bay Area Council, Bay Front Chamber of Commerce, and Contra Cost County Green Business Program to inform, encourage, and facilitate electrification for commercial business owners.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-3h	Review incentives and rebates (from Action BE-3g) for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural roadblocks, and lack of targeted outreach.	
BE-3i	Work with MCE, PG&E, and BayREN to incentivize all-electric retrofits by combining rebate programs and financing mechanisms to create cost-effective electrification packages and develop bulk-purchasing opportunities for multi-unit development owners. Additionally, work with BayREN to educate the business community about the available incentives and include direct outreach to small, and frontline community-owned businesses and property owners who rent and lease space to frontline community-owned businesses.	
BE-3j	Work with BayREN to identify highly efficient net zero energy building owners that meet the CPUC's hard-to-reach criteria and publicize commercial tax breaks to these building owners as well as commercial developers in Pinole.	
BE-3k	Re-evaluate the building performance program (Action BE-3d) every three years to gauge implementation progress and phase expansion of program to smaller buildings.	
BE-3l	Review and update Section 15.46.020 of the Municipal Code to require upon a transfer of ownership the disclosure of additional relevant weatherization information (e.g., ventilation standards, wall insulation, and installation of programmable thermostats) for residences and commercial buildings over 5,000 square feet. As part of this, work with Contra Costa County Department of Conservation and Development to promote the Weatherization Program for qualifying residents. Additionally, develop a City-specific disclosure checklist and coordinate with realtors/brokers to engrain the City's resale requirements into their work with buyers and sellers.	
Measure BE.4 Work with MCE to provide carbon-free and renewable energy to at least 95% of the community by 2030.		
BE-4a	Support MCE in building capacity and funding to provide all Pinole customers 100% carbon-free and renewable energy and adopt a City resolution to enroll all Pinole residents and businesses in carbon-free and renewable from MCE (e.g., MCE's Deep Green option) by 2030. The resolution shall include identification of a funding or subsidy plan/program to avoid cost increases to customers enrolled in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs (Action BE-4b).	2030: 3,200 2045: 0
BE-4b	In support of Action BE-4a, work with MCE to create a funding and subsidy plan/program for customers enrolled in the CARE or FERA programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for vulnerable communities.	
BE-4c	Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low and fixed incomes and vulnerable communities to identify barriers to remaining with MCE.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
BE-4d	Continue to partner with MCE to conduct educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy and promote the available incentives.	
BE-4e	Conduct targeted outreach campaigns to convert PG&E direct access customers to MCE by promoting available incentives and promoting the economic and business benefits of 100% renewable energy.	
Measure BE-5. Increase generation and storage of local community-scale renewable energy.		
BE-5a	Adopt a PV (Solar) Ordinance requiring newly constructed and majorly renovated multi-family and commercial buildings to install PV systems and storage that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen.	2030: N/A 2045: N/A
BE-5b	Continue to establish and streamline standards and permit requirements for electrification-related installations and battery storage systems to allow for easier implementation of these technologies in the City.	
BE-5c	Install a co-located community solar and storage facility to benefit affordable housing sites using Equity Resilience Incentives under the Self-Generation Incentive Program available through the California Public Utilities Commission.	
BE-5d	Collaborate with PG&E, MCE, and/or other community partners to support and incentivize local on-site energy generation and storage resources. This could include: ▪ Connecting home and business owners, particularly those in vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill credits, the Disadvantaged Communities-single-family Solar Homes (DAC_SASH) program, Self-Generation Incentive Program (SGIP), and Equity Resilience rebates that provide an upfront rebate for battery storage, as well as the federal investment tax credit. ▪ Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms. ▪ Providing workshops to large commercial developers and large business property owners on the benefits of microgrids and energy resilience. ▪ Creating a strike team to conduct engagement efforts for the commercial sector to identify ways the City can support commercial energy storage installations and neighborhood scale microgrid opportunities.	
BE-5e	Expand the partnership with GRID Alternatives through increased funding/support and promote the benefits of renewable energy through multi-lingual educational programs to facilitate an equitable transition to renewable energy.	
BE-5f	Partner with CBOs and homeowner's associations (HOAs) through the City's professional grant writing consultant, who will support the identification, conceptualization, preparation, and submittal of grant applications to secure funding for community-scale renewable energy projects. Utilize any grant funded projects as City pilot projects to demonstrate the success of the program and opportunities available.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy TR: Transportation		
Measure TR-1. Create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share to 5.5% by 2030 and 11.5% by 2045.		
TR-1a	Conduct an analysis of existing bicycle and pedestrian conditions during the development of the Active Transportation Plan with a focus on identifying residential communities, commercial uses, schools, and open spaces currently disconnected from the Creek, due to freeways and lack of connections on busy roads. Build on the interactive map created to solicit community input regarding the Active Transportation Plan on “Pinole Speaks,” the City’s public input website to display the active transportation conditions identified and allow community feedback through the webpage.	2030: 107 2045: 256
TR-1b	Complete the Active Transportation Plan with a focus on creating safe and connected active transportation networks that link residential neighborhoods, schools, and commercial centers to Pinole Creek and thereby to each other. The plan will include: ▪ A prioritized list of pathways to be installed or upgraded to include shared-use paths, buffered bike lanes, bike boulevards, and separated bikeways. ▪ A prioritized list of bicycle parking or storage and equipment repair infrastructure. ▪ Information on additional infrastructure installed as part of the plan, such as trash and recycling receptacles to prevent waste from entering the creek due to increased usage. ▪ A schedule for reducing vehicle speed limits at prioritized locations. ▪ Available funding sources for infrastructure buildout. ▪ Use of sustainable materials, when feasible Prioritization shall focus on achieving an equitable active transportation system where all Pinole residents have access to critical connections and mobility options.	
TR-1c	Partner with Contra Costa Transportation Authority to pursue funding from Caltrans’ Active Transportation Program or similar funding opportunities to implement improvements from the City’s Active Transportation Plan.	
TR-1d	Partner with entities such as the Metropolitan Transportation Commission, 511 Contra Costa, or the Contra Costa Transportation Authority to expand existing rebate programs to help families living on low- and fixed-incomes purchase alternative modes of transportation (e.g., bicycles, scooters, rollerblades, skates, skateboards) and appropriate safety gear.	
TR-1e	Partner with Bike East Bay and/or other non-profit groups to periodically close streets with connections and vistas of the Creek to cars to host walk/bike/roll (car-free) community events that demonstrate the benefits of a safe and connected active transportation network. Coincide these community events with regular active transportation events to encourage and reward residents for participation.	
TR-1f	Partner with schools, youth sports leagues, the Pinole Police Department, and community groups such as Friends of Pinole Creek Watershed, 511 Contra Costa, Pinole Valley Earth Team, Pinole Rotary, Pinole Community Services Commission and local Tribes to teach students and families bicycle and pedestrian safety and educate them on the safe route availability and the health and environmental benefits of walking and bicycling, as well as the history of the Pinole Creek ecosystem and surrounding natural lands.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-1g	Partner with an electric bike provider or rental company to pilot an electric-bike rental program at the Pinole Library. Track use of the program, including equity indicators, to monitor its success and evaluate continuation of the program.	
TR-1h	Install bike repair stations along the Pinole Creek and consider partnering with a local bike shop to provide quarterly bicycle repair support for residents traveling along the bike path or at a designated, central location.	
TR-1i	Implement 100% of the Active Transportation Plan by 2030 to achieve a 5.5% active transportation mode share by 2030 and 11.5% by 2045.	
Measure TR-2. Implement public and shared transit improvements and programs to achieve a 14% public transit mode share by 2030 and 18% by 2045.		
TR-2a	Partner with Western Contra Costa Transit (WestCAT) to conduct a prioritization study to determine transit priority corridors and best potential locations for WestCAT expansions (including the Hercules Intermodal Transit Center and Richmond BART Station) to reduce transit travel times from/to Pinole. The study shall include an analysis of existing stops and schedules, a survey of existing commuter patterns, analysis of potential latent demand, and targeted outreach to residents living on low- and moderate-incomes and members of vulnerable communities to understand the concerns around or equity barriers to using public and/or shared transit.	2030: 256 2045: 559
TR-2b	Conduct a feasibility study to assess the potential impacts and costs of a park-and-ride facility in Pinole and identify potential locations.	
TR-2c	Work with WestCAT to complete an analysis of potential design improvements, such as seating and shading bus stops and along active transportation routes to increase use.	
TR-2d	Work with WestCAT to improve transit accessibility for people with disabilities by ensuring physical accessibility (i.e., ramps, lifts, and tactile paving), providing both audio and visual information; training staff on how to assist people with disabilities and handle equipment; and actively engage people with disabilities in the decision-making process.	
TR-2e	Partner with WestCAT and the Contra Costa Transportation Authority to implement a free public transit pilot program for students, foster youth, and unhoused youth in Pinole that makes it free for participants to travel via WestCAT.	
TR-2f	Based on the prioritization studies (TR-2a - TR-2c), develop a plan to prioritize infrastructure improvements in existing neighborhoods that increase access to and use of public transit. The plan shall include projects and timelines to: - Expand WestCAT routes and schedules - Cohesively label all existing and new stops - Provide safe and convenient shelters with benches, shade, hand sanitizing stations, area maps, and native plants - Establish a schedule to annually monitor routes and schedules to confirm they meet the needs of the community	
TR-2g	Engage with Caltrans to design and install a park and ride facility, which may include implementing efficient traffic flow systems.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-2h	Partner with 511 Contra Costa to educate Pinole residents, commuters, and students on available transit opportunities through free commute consultations, and provide qualifying commuters with financial incentives to take transit, such as pre-loaded Clipper cards and a Guaranteed Ride Home program.	
TR-2i	Partner with WestCAT and the Contra Costa Transportation Authority to pursue funding for the prioritization study and plan (TR-2a - c and TR-2f) through MTC's One Bay Area Grant funding, or similar funding opportunities.	
TR-2j	Partner with the West Contra Costa Unified School District and/or private schools to evaluate mobility needs and expand bus routes where necessary to increase access to and use of school bus transportation to schools, including services for after-school hours for student and their guardians.	
Measure TR-3. Develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2.		
TR-3a	Adopt an ordinance requiring all employers to develop a Transportation Demand Management (TDM) Plan and require large employers (i.e., more than 25 employees) to include money-based incentives for employees to bike, walk, carpool, or take public transit to work. Additionally, complete a comprehensive study to establish an Average Vehicle Ridership (AVR) that accurately reflects Measure TR-1 and TR-2's goals.	2030: N/A 2045: N/A
TR-3b	Create a Pinole Parklets Program to install parklets in the downtown and other commercial areas of the City and engage with businesses to gain sponsorship for the parklets.	
TR-3c	Require informative signage be included at the parklets designed through the Pinole Parklet Program (Action TR-3b) that provide information on the benefits of ecosystem services at all scales, and the health impacts associated with reducing single occupancy vehicle trips.	
TR-3d	Partner with local jurisdictions, public transit providers, and CBOs to identify gaps in the transportation network that can be prioritized for cross-jurisdictional collaboration to connect the region and reduce the need for single occupancy vehicles.	
TR-3e	Conduct an analysis of the potential community impacts and feasibility and benefits of implementing disincentive-based policies for driving single-passenger vehicles, including a congestion charge program, limiting parking options, increased local taxes (income tax, gasoline tax, or car registration tax), and Transportation Network Companies (TNC) user taxes. Include analysis of potential equity impacts of the policies and identification of potential equity metrics to address equity concerns when developing policies.	
TR-3f	Consider opportunities to fund transportation system improvements through disincentive-based program revenues and/or a tiered TDM fee for employers who do not achieve the established AVR by 2030 to establish an equitable transition to more sustainable modes of transportation.	
TR-3g	Conduct AVR surveys of Pinole businesses every three years to determine weekday AVR and mode share split as well as perceived barriers to telecommuting and alternative modes of transportation (i.e., modes other than single occupancy vehicles), and interest in sustainable transportation amenities, infrastructure, and events/resources.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-3h	Consider development applications that will improve the community by increasing density in transit-rich areas and connecting residents of multi-family, and/or affordable housing sites to public and shared transit options.	
Measure TR-4. Increase passenger zero-emission vehicle (ZEV) use and adoption to 33% by 2030 and 100% by 2045.		
TR-4a	Adopt an EV reach code by 2025 requiring new commercial and multifamily construction to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces).	2030: 3,832 2045: 13,839
TR-4b	Adopt an EV reach code by 2026 requiring major multifamily building retrofits to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total parking spaces) and major commercial retrofits (with a square footage larger than 10,000 square feet or modifications for electric service panels) to meet CalGreen requirements for “EV Ready” charging spaces and infrastructure.	
TR-4c	Adopt an ordinance that bans the development of any new, or expansion, renovation or replacement of any existing, fossil fuel stations in the City prior to the expiration of the Urgency Ordinance. The process should include: 1. Determine and define an outreach process. 2. Prepare a General Plan, Specific Plan, and Zoning Ordinance text amendment, which would establish Service Station land use as Not Permitted by Table 17.20.030-1 in the PMC, making all existing service stations legal non-conforming and subject to Section 17.14.080 of the Municipal Code. 3. Determine if any streamlining enhancements to existing provisions in the PMC that incentivize the expansion, modification, or retrofit of an existing service station to incorporate biodiesel or other alternative fuels or charging stations for electric vehicles should be considered. 4. Take the Amendments through the required public review process, including Planning Commission recommendation and City Council adoption. 5. Continue to direct staff to explore options for additional charging at City-owned/maintained properties and private facilities for public benefit.	
TR-4d	Update Pinole’s permit process for EV chargers to create a streamlined process for residents and businesses that is consistent with the State’s Electric Vehicle Charging Station Permitting Guidebook (as well as AB 970, AB 1236).	
TR-4e	Prepare a feasibility study to evaluate opportunities for installation of EV charging stations at City owned facilities. The feasibility study will assess electrical capacity, electrical demand, financial constraints, and parking utilization to provide a prioritized list of locations to install new publicly accessible EV charging stations.	
TR-4f	In the feasibility study, include evaluation of opportunities and prioritization of locations to increase the equitable distribution of publicly available EV chargers to residents of multi-family homes and residents living on low- and moderate-incomes, as well as consideration for optimizing daytime charging.	
TR-4g	Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City’s website and at community events.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-4h	Work with MCE to promote and provide technical assistance for their Residential EV Rate Plan and MCE Sync charging app to help community members charge during off-peak hours and save money on home charging.	
TR-4i	Coordinate with community-based organizations, local agencies, and non-profits such as Charge Up Contra Costa, 511 Contra Costa, and Cool the Earth to conduct zero-emission vehicle (ZEV) education events for residents and targeted events for residents living on low- and moderate- incomes as well as residents living in multi-family buildings that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and detail the steps on how to receive incentives for ZEVs.	
TR-4j	Work with Contra Costa County to create an EV charging etiquette policy that encourages a seamless charging experience, fosters community collaboration, and promotes sustainable practices for the benefit of all electric vehicle users and the environment.	
TR-4k	Develop an equitable charging fee structure that provides accessibility for all users, regardless of socio-economic background, fostering inclusivity and promoting widespread adoption of electric vehicles.	
TR-4l	Develop outreach and education materials and distribute them to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health, and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process. Additionally, as part of this process, include information on EV battery recycling to dispel myths, ease disposal concerns, and promote sustainable practices grounded in science.	
TR-4m	Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a zero-emission vehicle car share network.	
TR-4n	Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share program to serve affordable housing and/or multifamily developments with a priority to target residents living on low- and moderate-incomes.	
TR-4o	Based on the prioritized list of locations developed through actions TR-4d and TR-4e, install at least 270 new publicly accessible Level II and DC Fast chargers by 2030 and 935 by 2045, through public-private partnerships and on City-owned properties.	
Measure TR-5. Increase commercial zero-emission vehicle (ZEV) use and adoption to 25% by 2030 and 100% by 2045.		
TR-5a	Work with the Bay Area Air Quality Management District, Pacific Gas & Electric, and or similar entities to identify and provide funding for electric vehicles and charging infrastructure for disadvantaged or vulnerable business owners.	2030: 2,303 2045: 8,186
TR-5b	Create a summary of commercial vehicle fleets in Pinole and identify employers to work with to accelerate ZEV adoption through targeted education.	
TR-5c	Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of zero emission vehicles (e.g., fuel cost savings through networked charging and current availability of zero emission vehicles ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities.	
TR-5d	Implement local tax breaks to incentivize commercial fleet electrification.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
TR-5e	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.	
Measure TR-6. Electrify or otherwise decarbonize 8% of off-road equipment operations by 2030 and 100% by 2045.		
TR-6a	Create a phased ordinance by 2026 to ban the local operation of gasoline and diesel-powered off-road equipment by type (e.g., lawn and garden, construction), including banning local operation of gasoline and diesel-powered small off-road equipment (SORE) by 2028. Update the ordinance based on a regular review of relevant state regulations, regional rules, and available technology.	2030: 1,245 2045: 10,721
TR-6b	Establish a communication and outreach program to raise awareness of the ordinance, educate community members on the benefits of and funding opportunities for offroad decarbonization, and collect data on offroad fleet and decarbonization trends in the community (e.g., through outreach sampling and surveying).	
TR-6c	As part of Action TR-6b's program, investigate off-road equipment fleets in the City to identify fleets with the highest decarbonization potential, fleets owned by small and minority businesses that will need targeted support and incentives to decarbonize or electrify, and fleets that do not currently have zero-emission alternatives. Utilize these findings to develop the phased off-road ordinances.	
TR-6d	As part of Action TR-6b's program, develop a multi-lingual Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in the City, with a target towards those identified in Action TR-6c. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).	
TR-6e	Partner with surrounding jurisdictions and the Bay Area Air Quality Management District (BAAQMD) to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.	
Strategy SW: Solid Waste		
Measure SW.1. By 2025, reduce organics to landfill by 75% to meet or exceed SB 1383 organic waste diversion requirements through composting and edible food recovery.		
SW-1a	Through MOUs with the City's waste haulers, establish requirements by 2024 for waste haulers to perform annual performance assessments to determine compliance with SB 1383 requirements. If the performance assessments show the hauler is not on target, meet with the hauler and RecycleMore staff to establish prioritized actions for the hauler and/or RecycleMore to complete. Additionally, utilize the assessments to identify trends in contamination and integrate lessons learned into the educational program as part of Action SW-1e.	2030: 2,934 2045: 3,570

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-1b	Partner with RecycleMore, Sustainable Contra Costa, or similar entities to complete community based social marketing (CBSM) targeted outreach and education campaign by 2025 to high organic generation commercial accounts to educate and train commercial generators' management and staff about best practices in food waste reduction and surplus food donation. As part of this effort, develop successful case studies for Pinole food facilities to provide best practices, cost savings and other methods to energize food facility managers and staff to fully participate in the organics diversion and edible food recovery programs.	
SW-1c	In concert with Economic Development programs, establish a downtown Pinole outreach campaign and recognition program by 2025 to celebrate restaurants/food facilities with the highest diversion and edible food recovery success. Create a space on the City's CAAP website to highlight the campaign and leaders in the community, as well as provide a plaque or alternative community recognition that emphasizes the successful initiatives.	
SW-1d	Establish a program by 2024 to distribute kitchen food pails at community events (e.g., Farmers Markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk), distribute food pails at grocery stores in lower-resourced areas, and directly connect with property owners of low/moderate income rental housing to distribute food pails directly to housing units. Through the program, track how many pails are distributed quarterly.	
SW-1e	Establish and maintain an ongoing education program informing the community about compostable materials and upcoming at-home composting workshops, including regularly updated guidelines on composting, especially paper, distributed bi-annually and made available at the City permit counter, grocery stores, as well as at farmers' markets, California Coastal Cleanup Day, Pinole's Dumpster Day, Earth Walk and other community events.	
SW-1f	Transform Pinole's "Dumpster Day" into "Resource Recovery Day," in both name and concept, by introducing a community swap meet where residents exchange/recycle household goods in preference to conventional commerce and waste. At the event, the City will provide education about organics diversion (including the concept of closing the loop for organics material and edible food recovery) and the "Buy Nothing" movement, and feature special compost giveaway events (e.g., free kitchen food pails).	
SW-1g	Work with local grocery stores and retail food markets, the Contra Costa and Solano Food Bank Rescue Program, RecycleMore, and community groups to understand the criteria for acceptable food for recovery and establish a more robust food rescue and distribution program to divert additional edible food to food insecure residents.	
SW-1h	Identify and support school organizations in the City (e.g., leadership, sustainability, and environmental groups or clubs) start "Go Organics" programs to initiate, educate, and implement robust organics collection programs on campus in collaboration with the City's waste hauler and RecycleMore.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-1i	Develop presentations for all schools in Pinole to: - Educate students, staff, and teachers on how to implement an efficient, yet robust organics collection program - Educate students, staff, and teachers on the benefits of diverting organics and reducing GHG emissions - Engage school leadership on the benefits of establishing a ‘closed loop partnership’ regarding organics. This could include adding organics end products such as mulch and compost delivered from the City’s waste hauler nearby composting facility to school gardens and landscaping, thereby eliminating need for pesticides and herbicides, and increasing water retention in school landscaping.	
SW-1j	Continue to partner with the City’s waste hauler to include quarterly multi-lingual inserts in residential and commercial billing to highlight important programs and initiatives, including the single-use plastic ban and the no-cost organics pails available to residents and the composting programs in Action ID SW-1h, as well as new programs as they are created.	
SW-1k	Develop a comprehensive outreach program to educate Homeowner Associations, neighborhood associations, and communities on social media platforms such as NextDoor on the City’s organic waste diversion requirements and available programs and resources to increase diversion.	
SW-1l	Implement a comprehensive organics collection and edible food recovery program for low income and fixed income people to ensure access to edible surplus food recipients such as food banks and other food recovery organizations.	
SW-1m	Fund the comprehensive organics collection and edible food recovery program using CalRecycle’s SB 1383 grant funding cycle.	
SW-1n	Partner with local waste management providers, food recovery organizations, and West Contra Costa Unified School District, private schools in Pinole, or similar entities, to analyze existing food waste generation, disposal practices, and potential sources of edible surplus food.	
SW-1o	Install compost bins throughout the City where there are landfill and recycling bins to collect organics generated. Incorporate the hauling requirements into the waste hauler’s contract to confirm proper management and disposal.	
Measure SW-2. Reduce landfilled inorganic waste 35% by 2030 and 90% by 2045.		
SW-2a	Adopt a Zero Waste Policy and Zero Waste Strategic Plan to guide and detail methods to meet the reduction target of 35% by 2030 and 90% by 2045. As a part of the Zero Waste Strategic Plan, adopt a Single-use Plastic Foodware and Bag Reduction Ordinance to phase in the reduction, and subsequent elimination of, single-use plastic foodware by food facilities.	2030: N/A 2045: N/A
SW-2b	Partner with an entity such as Terracycle to create a recycling program at City-owned and operated buildings and other community-based locations to collect hard to recycle products, such as snack pouches.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-2c	Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, engage local home improvement businesses and partner with the Pinole Library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available.	
SW-2d	Continue the City's single-use plastic education efforts and integrate the efforts into a citywide education program, 'Pinole's Path to Zero Waste,' to expand outreach and resources about zero waste goals and focus education on specific benefits to the City (e.g., reduction of single-use plastic pollution flowing into Pinole Creek and San Pablo Bay, community savings from reduce and reuse efforts).	
SW-2e	Partner with community-based organizations such as ReThink Disposables and RecycleMore to engage Bayfront Chamber of Commerce members and other Pinole businesses to educate the business community about the benefits of reusables and inform them about the new Single-use Plastic Foodware and Bag Reduction Ordinance.	
SW-2f	Work with compostable distributors to achieve competitive pricing for compostable foodware to increase compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance.	
SW-2g	Sponsor businesses to host refill pop-ups at community events (e.g., Farmers Market) where community members can purchase common household products and food in bulk using their own containers and create a network of local businesses that can provide the pop-up local, bulk products with zero-waste packaging.	
SW-2h	Secure financial grants and assistance from Rethink Disposables, CalRecycle's City/County Payment Program (CCPP), and others, to support businesses in developing pilot programs for reusable and returnable foodware and drop-off stations, purchasing and installing dishwashers, and overall gaining compliance with the Single-use Plastic Foodware and Bag Reduction Ordinance. Highlight and support use of new grant funds available for small and minority-owned businesses to participate. Additionally, Seek grant funding to support pop-up repair cafes and a tool lending program.	
SW-2i	Create a Hazardous Waste Material Reuse Program that offers usable household hazardous waste collected at the West Contra Costa County Drive-Through to the community free of charge through a Material ReUse Store. Establish a schedule and location(s) to operate the Material ReUse Store alongside the household hazardous waste collection schedule and promote the store on the City's website and on the City's social media platforms.	
SW-2j	Partner with public schools to reduce single-use foodware, convert necessary single-use plastic foodware to compostable/reusable foodware, and educate students on closing the loop (i.e., Loop organics).	
Measure SW-3. Meet CalGreen's current 65% construction and demolition (C&D) materials diversion requirements on all covered projects.		
SW-3a	Include in, or amend, the franchise agreement with the City's waste hauler to require C&D diversion requirements with performance disincentives for non-compliance.	2030: N/A 2045: N/A

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-3b	Partner with RecycleMore and the City's waste hauler to complete an assessment of projects that were not compliant with the 65% diversion requirement. Determine an Action Plan to ensure similar future projects meet the 65% requirement. Complete ongoing review of projects collaboratively with RecycleMore to assess projects that are non-compliant and methods to ensure 65% diversion requirements are met.	
SW-3c	Fully engage and inform permit applicants of the 65% requirements at the very beginning of the planning, building, and inspection process and collaborate with Recycle More to integrate C&D diversion practices into the City's permit process.	
SW-3d	Create and distribute a Contractors Guide to educate contractors on the requirements to meet the program conditions that include pre-permit documentation weight tags, post-permit documentation, and consequences for not meeting minimum diversion requirements.	
SW-3e	Update C&D information on the City's website to include a more complete comprehensive list of documents, such as: ▪ Pre-permit requirements ▪ Green Halo system requirements ▪ Locations for C&D materials processing/diversion ▪ Weight tag requirements ▪ Post project requirements and signature ▪ Details regarding consequences for not meeting requirements.	
SW-3f	Partner with the City's waste hauler, RecycleMore and other C&D organizations to educate on best practices for meeting CalGreen 65% requirements as part of Program 9 in the Housing Element.	
SW-3g	Use financial grants and assistance from CalRecycle to fund and provide tools for low- and fixed-income projects to meet requirements.	
SW-3h	Continue to offer online-waste tracking options for the community through the Green Halo compliance system, or a similar system, which allows for receipts to be verified online, streamlining the processes substantially.	
SW-4. Analyze opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery.		
SW-4a	Complete a feasibility study to identify local partners, analyze the potential waste volume, and assess facility upgrades needed to complete a pilot Organics to Energy Project at the WWTP and the potential cost and GHG emission reduction impacts of such a project.	2030: N/A 2045: N/A
SW-4b	Conduct case study assessments of other organics to energy projects at WWTPs to educate City decision makers, the public, and other interested parties on the feasibility of the pilot project and opportunities to enhance the WWTP for organic waste diversion.	
SW-4c	Partner with an organics-to-energy company to help assess the feasibility of a pilot project for the City and impacted communities.	
SW-4d	Pursue funding opportunities (e.g., CalRecycle) and financing alternatives to address capital costs for the pilot project.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SW-5. Establish new programs to meet the City's SB 1383 annual procurement target (i.e., 1,073 tons of compost in 2030 and 1,292 tons of compost in 2045) by 2030.		
SW-5a	Establish a program to procure and provide compost for: - The City's parks, recreation areas, schools' landscaping, and school gardens - Garden community organizations such as the Pinole Garden Club - Residential and commercial landscapers	2030: 425 2045: 513
SW-5b	Amend or otherwise ensure that the Franchise Agreement for the City's waste hauler will provide organic waste products at reduced cost.	
SW-5c	Establish a new program to deliver compost to local schools and community organizations. Expand free compost giveaways to residents, local urban farmers, and other organizations. Track the success of the program based on tons of compost given away and promote the program on the City's CAAP website and through the City's social media channels.	
SW-5d	Complete a feasibility study in collaboration with RecycleMore to identify cost-effective end uses for organic waste products and methods to distribute the products.	
SW-5e	Using established education materials from RecycleMore and other organizations, provide outreach and education to the City's garden community organizations such as the Pinole Garden Club, resident groups, and commercial landscapers in Pinole on the benefits of using organic end products such as compost and mulch.	
SW-5f	Partner with Republic Services, or others who own large composting operations in close proximity to the City to provide organic end product to the community at a cost-effective rate.	
SW-5g	Use the SB 1383 fee to pay for a portion of organic end use products. Use financial grants and assistance from CalRecycle to fund the purchase of organic end product. Focus effort on lower income projects to participate in program.	
SW-5h	Establish an online mapping location hosted on a City website to identify existing community gardens and make a list of potential underused park space for expansion, setting internal key performance indicators for number of new garden spaces.	
Strategy W: Water		
Measure W-1. Reduce per capita potable water consumption 10% by 2030 and 25% by 2045, from 2017 levels.		
W-1a	Continue to implement and enforce Pinole Municipal Code Chapter 15.54 (Water Efficient Landscaping) to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf.	2030: N/A 2045: N/A
W-1b	Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies. The Ordinance will focus primarily on domestic water use, health and sanitation, and fire protection.	
W-1c	Perform a study to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance. The feasibility study will help the City determine the size threshold for future development projects subject to the Ordinance.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
W-1d	Upon completion of the Feasibility Study in Action W-1c, adopt an appropriate Dual Drainage Plumbing Ordinance.	
W-1e	Continue to comply with SB 1087 and Municipal Code Chapter 17.32 (Affordable Housing Requirements) requirements to provide priority water and sewer service allocations to affordable housing developments.	
W-1f	Continue to partner with East Bay Municipal Utility District's to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pinole, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens. Provide specific updates to the community as new programs are released, such as featuring a new indoor plumbing program to help Customer Assistance Program participants find and fix indoor leaks.	
W-1g	Implement a comprehensive, coordinated educational initiative focused on property owners, landlords, property management firms, homeowners' associations, and occupants to reduce water usage in homes and businesses. This campaign will incorporate the water conservation messaging of the East Bay Municipal Utility District (EBMUD), utilizing various communication channels such as publications, websites, community events, workshops, and bill inserts. It will also provide details on available incentives for water-saving appliances, fittings, fixtures, and efficient landscaping irrigation systems, including those offered by EBMUD. Additionally, the campaign will focus on reaching disadvantaged and vulnerable communities to alleviate the burden of utility bills.	
W-1h	Partner with EBMUD, the Contra Costa Master Gardeners and/or Pinole Garden Club to develop community programs to encourage water-wise landscaping and watering practices and to provide a hands-on learning experience such as sheet mulching lawn conversions for members of the community. Include promotion of EBMUD Lawn Conversion rebates.	
W-1i	Continue to partner with Rising Sun to provide Green House Calls to residents to provide high-efficiency fixtures/fittings and leak detection tests.	
W-1j	Work with EBMUD to provide existing commercial entities that have decorative or non-functional turf onsite with the education and resources necessary to transition to regenerative landscapes with a goal of replacing all existing commercial decorative or non-functional turf by 2030.	
Measure W-2. Increase the community's use, supply, and access to recycled water.		
W-2a	Continue to work with EBMUD to complete a feasibility study to identify opportunities to increase supply of recycled water to the City. The feasibility study will: - Analyze opportunities to expand purple piping infrastructure - Identify opportunities and technologies to increase recycled water supply - Evaluate potential impacts to cost of service - Investigate ways to maintain or decrease costs of service through the projects - Identify customers that would benefit from receiving recycled water within City of Pinole and adjacent to the City, in Hercules or other surrounding jurisdictions, as applicable	2030: N/A 2045: N/A
W-2b	Pursue funding opportunities at the state and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to fund recycled water infrastructure and to increase the equitable distribution of recycled water in the City.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
W-2c	Investigate working with EBMUD to promote the installation of greywater equipment in homes and businesses through a multi-lingual Laundry-to-Landscape outreach campaign. The campaign shall include: ▪ Educational information on the environmental and financial benefits of greywater systems ▪ Information on how to install and use the systems, including information on EMBUD greywater rebates ▪ Distribution of educational materials at the City's permitting counter ▪ Supplemental event(s) hosted with EBMUD or industry expert to educate community members on the installation and use of the systems, including an existing residential greywater system demonstration. ▪ Direct outreach to multi-family property owners.	
W-2d	Create and implement a phased outreach campaign to educate the community on the benefits of recycled water as well as dispelling misconceptions to and increase community use.	
W-2e	Upon completion of the feasibility study to identify opportunities to increase supply of recycled water to the City, work with EBMUD to develop a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used.	
Strategy CS: Carbon Sequestration		
Measure CS-1. Increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Community Urban Forest Plan.		
CS-1a	Develop and adopt a Community Urban Forest Plan by 2026 to identify and prioritize tree planting areas in the City. The Plan will: ▪ Inventory the existing urban forest as a baseline and identify areas in Pinole that have below average canopy coverage (such as census block groups 60133640021, 60133640023, and 60133922004) and high urban heat island effects. ▪ Design a tree planting program focused on eliminating significant difference in canopy coverage between census blocks by 2040. ▪ Identify a phased timeframe for program implementation. ▪ Establish a management plan for existing trees that will focus on promoting street tree health, enhancing resilience, increasing the environmental benefits and co-benefits from trees, and engaging the community in urban forest management. ▪ Establish a tracking system to assess progress towards annual goals and annual benchmarks.	2030: N/A 2045: N/A
CS-1b	Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the Urban Forest Inventory and Management Plan and share the plan on the City's website.	
CS-1c	Continue protecting existing trees on private property through the provisions of PMC Chapter 17.96 (Tree Removal) and amend the Municipal Code to require as a condition of approval when a Tree Removal Permit is issued either planting on-site replacement trees or paying an in-lieu fee equal to at the value of the protected tree.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CS-1d	Prioritize tree implementation in areas with populations most at risk to extreme heat impacts (older adults, children, outdoor workers, individuals with disabilities, transit dependent individuals, and individuals with chronic health conditions) pursuant to the Urban Forest Inventory and Management Plan.	
CS-1e	Review, enhance, update, and regularly maintain the City's existing "Tree" webpage with relevant information, such as best practices for watering and fertilizing trees, guidelines for pruning and maintenance, information on local tree species, and resources for reporting tree damage or disease. Additionally, provide information on the benefits of a healthy tree canopy, including improved air and water quality, reduced urban heat island effects, and increased property values.	
CS-1f	Amend the Municipal Code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment.	
CS-1g	Continue to pursue and obtain grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Cal Fire's Urban and Community Forestry Program, and the California Natural Resources Agency's Urban Greening Program) available grants for tree planting and urban greening projects.	
CS-1h	Develop a City incentive program for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below average tree equity or canopy coverage, pursuant to the Urban Forest Inventory and Management Plan.	
CS-1i	Partner with a local nursery to host regular tree planting events and volunteer opportunities to engage community members in the effort to maintain and expand the local tree canopy.	
CS-1j	Work with a community non-profit organization to develop an adopt a tree program increase the urban tree canopy in marginalized communities	
CS-1k	Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing and planting trees in prioritized areas pursuant to the Urban Forest Inventory and Management Plan, paying for tree maintenance in disadvantaged and vulnerable communities in the City, or supporting staff resources for the Urban Forest Management Program.	
Measure CS-2. Increase nature-based and technological carbon sequestration and capture opportunities in Pinole.		
CS-2a	Seek funding to conduct a study to quantify the carbon stock in existing Pinole blue carbon ecosystems (e.g., eelgrass in San Pablo Bay) and quantify the carbon sequestration potential of blue carbon restoration and expansion.	2030: N/A 2045: N/A
CS-2b	Partner with concrete producers to research opportunities for technological carbon sequestration in Pinole including potential funding mechanisms (e.g., Verra's Methodology for CO ₂ Utilization in Concrete Production).	
CS-2c	Based on the studies, develop a plan to increase carbon sequestration in Pinole. The plan shall include a quantitative carbon sequestration target to achieve by 2045 and a process for regular monitoring of carbon stocks.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CS-2d	Create an educational campaign that informs members of the community about the benefits and methods associated with carbon sequestration and capture that avoids jargon and clearly explains the opportunities and benefits in the City. Confirm that the educational materials are provided in a multi-lingual, culturally considerate manner and distributed specifically to disadvantaged community members.	
Adaptation		
Strategy CAR: Community Adaptation and Resilience		
Measure CAR-1. Establish a reliable resilience center in the City to provide relief from extreme weather events, including extreme heat, flooding, and smoke from wildfires.		
CAR-1a	Conduct an assessment on the effectiveness of current City resilience center operations. Conduct a study regarding the feasibility of additional community locations (e.g., Pinole Youth Center and Pinole Library) that could serve as resilience centers by evaluating current amenities and resources available. As part of the studies, verify that the needs of vulnerable populations are met during climate hazard events and host focus groups with selected community-based organizations and other interested parties to identify needs for their service population.	N/A
CAR-1b	Identify and apply for funding opportunities that support development of a resilience center, and/or staff positions to maintain the center, such as the Office of Planning and Research Regional Resilience Grant Program.	
CAR-1c	Utilizing the City's "Energy Conservation, Generation, and Storage Assessment" conducted in 2024, establish an upgrade and maintenance cycle, including replacement of filters with at least a MERV 11 rating on a quarterly basis for all existing HVAC systems in City owned buildings.	
CAR-1d	Work with WestCAT to establish a list of vulnerable community members (e.g., older adults, who may not be able to access a vehicle or public transportation during a heat wave), as well as a program to transport them to established resilience centers.	
CAR-1e	Provide essential resources such as health programs, food, refrigeration, charging stations, basic medical supplies, and other emergency supplies at all City resilience centers, as well as educational materials on resources and climate adaptation and preparedness. Audit and refresh supplies on a biannual basis, including information on any new or updated programs or resilience center locations.	
CAR-1f	Partner with local public or private entities to establish resilience centers at privately owned facilities in the City.	
Measure CAR-2. Provide streamlined communication to the public on climate adaptation preparedness, resilience, and evacuation.		
CAR-2a	Review and update the City's Emergency Information webpage ²¹ to reflect ways to prepare for events that may be likely to increase due to climate change, including wildfires, floods, extreme precipitation, extreme heat, poor air quality, and drought, as well as heat-related illness, exacerbate mental stress, and respiratory diseases	N/A

²¹ <https://www.ci.pinole.ca.us/cms/One.aspx?portalId=10947056&pageId=14640371#emergency>

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CAR-2b	Assess current City capacity to shelter displaced residents including facilities, infrastructure, services, and community programs during an extreme weather event.	
CAR-2c	Partner with community-based organizations to establish a working group to develop designated temporary housing options for wildfire displaced residents to live in for up to two years after their home is destroyed or severely damaged.	
CAR-2d	Require that all emergency preparedness and evacuation communications are provided in plain language and translated into Spanish, Tagalog, and Cantonese to support non or limited English speakers. Increase participation in emergency notification systems including the Community Warning System and PG&E Community Wildfire Safety Program through social media campaigns and physical flyer distribution.	
CAR-2e	Provide administrative support and dedicate staff time for grant writing and funding tracking for climate adaptation and resilience projects, including opportunities to increase and enhance communication such as preparation of interactive websites and information sharing resources.	
CAR-2f	Identify critical facilities in need of reliable sources of sustained electrical power during events of extreme climate. Assess power loads at each critical facility, determine costs and technology options for battery storage, and make any additional recommendations to the City Council prior to advancing construction.	
CAR-2g	Utilize Pinole Community Television (PCTV) to provide consistent information to community members about adaptation preparedness by providing multi-lingual information that is accessible for people including seniors, individuals with disabilities, children, and caregivers.	
CAR-2h	Create evacuation procedures for vulnerable populations in partnership with community-based organizations and facilities that serve identified populations. Host and/or participate in in-person engagement and incorporate games/activities to educate the community on preparedness.	
CAR-2i	Require that the City's resilience centers have adequate backup power sources and battery storage to mitigate service disruptions and provide redundancy in the event of a power outage.	
Strategy FL: Flood Control		
Measure FL-1. Improve the quality of and reduce the quantity of stormwater runoff through Implementation of the Pinole Green Infrastructure Plan.		
FL-1a	Prepare a feasibility study to investigate potential infrastructure improvements to relocate critical City infrastructure, such as the Senior Center, Pinole Police Department, and Tiny Tots, from the 100-year flood zone. The feasibility study would include: 1. Identifying potential alternative locations for the City's critical infrastructure that's located in the 100-year flood zone. 2. Preliminary design and construction of new buildings or facilities. 3. Analysis of costs associated with relocating facilities as well as the potential costs of doing nothing. 4. Outreach to community members and other interested parties to confirm that the relocation aligns with the community's needs.	N/A
FL-1b	Continue participation in the Contra Costa County Multi-jurisdictional Hazard Mitigation Plan update; identify flood mitigation actions eligible for grant funding through FEMA hazard mitigation assistance programs.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
FL-1c	Encourage landlords to consider how to prepare their properties for flooding by providing retrofit informational resources and educate them on prioritizing low-impact stormwater best practices.	
FL-1d	Create educational campaigns that connect with vulnerable populations to increase awareness and knowledge of how to mitigate and weather flooding.	
FL-1e	Identify and apply for grant opportunities to fund stormwater related projects from sources such as the State Water Resources Control Board, California Natural Resources Agency, the Coastal Conservancy, California Water Foundation, as well as the United States Environmental Protection Agency and the United States Department of Agriculture.	
FL-1f	Review existing best practice and conduct studies of combined riverine/ shoreline flooding and increased severity of rainfall events on watershed flooding.	
FL-1g	Complete the Storm Drainage Master Plan as identified in the Capital Improvement Plan to thoroughly investigate deficiencies in the existing storm drain system and prioritize infrastructure improvements.	
FL-1h	Implement stormwater and drainage projects identified in the City Capital Improvement Plan, to mitigate localized flooding incidents.	
FL-1i	Conduct post-flood inspections for residents and business owners upon request and provide post-disaster home repair and technical assistance for vulnerable communities.	
Strategy SLR: Sea Level Rise		
Measure SLR-1 Create, restore, and protect natural coastal ecosystems.		
SLR-1a	Conduct a shoreline stabilization study to determine the most effective methods for protecting Pinole's coastal communities and infrastructure from erosion and sea level rise, and to identify opportunities for restoring natural shoreline habitats that can serve as a buffer against storm surges and other impacts of climate change. The study would involve the following: 1. Assessing the physical characteristics of the shoreline 2. Evaluating the potential risks and benefits of different stabilization techniques 3. Engaging with local community members and other interested parties to ensure that the chosen strategies align with community needs and values 4. Prioritizing options that enhance and maximize shoreline resources and access including considering innovative nature-based solution approaches	N/A
SLR-1b	In collaboration with Contra Costa County and state agencies, develop a sea level rise resilience and adaptation strategy with shoreline restoration projects using innovative nature-based solutions and green engineering that would enhance public access, shoreline habitat (e.g., re-establishing native dune habitats, wetlands, and lagoons) and increase shoreline recreational opportunities.	
SLR-1c	Partner with the San Francisco Bay Conservation and Development Commission (BCDC), and/or similar entities, regarding regional approaches, strategies, and mitigation actions to address sea level rise. Implement a Shoreline Management Plan, and/or a Shoreline Monitoring Program that would identify erosional hotspots and timely response.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
SLR-1d	Establish annual budgets for projects within and benefiting vulnerable populations (2016, Assembly Bill 1550), including seniors, individuals with disabilities, children, low-income communities, and communities in low-lying areas.	
SLR-1e	Research external funding opportunities, including grants to support shoreline resilience, shoreline restoration projects, or beach nourishment (e.g., Living Shoreline and Nature-based solution projects). Examples of grantee agencies are California Coastal Conservancy, California Coastal Commission, California Ocean Protection Council, NOAA, California Division of Boating and Waterways.	
SLR-1f	Identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. It might be done through the designation and zonation of lands into a Local Coastal Program or providing additional incentives to encourage creation of new recreation areas or opportunities. Additionally, plan for future shoreline recreational space and parkland by protecting open space adjacent to shoreline habitats, allowing the beach and habitats to migrate into these spaces.	
SLR-1g	Partner with West Contra Costa Unified School District, private schools in Pinole, East Bay Parks, East Bay Municipal Utility District, Friends of Pinole Creek Watershed, 350 Contra Costa, or similar entities to create educational opportunities for the community around the Pinole Creek Watershed. These programs would focus on educating youth in Pinole on the importance of natural shoreline ecosystems, their role in climate resilience, biodiversity, and local, native species. The programs would also include information on how people can actively get involved in adapting to climate change in their homes and neighborhoods and provide hands-on volunteer opportunities for the community to participate.	
SLR-1h	Increase the City's near and long-term capacity building to be able to develop and implement thoughtful shoreline resilience projects by creating a position for and hiring a shoreline resilience expert. The specific title may vary depending on the individual's background and the focus of their work within the broader context of climate change and sea level rise.	
Strategy EH: Extreme Heat		
Measure EH-1. Reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.		
EH-1a	Partner with West Contra Costa School District and the private schools in the City to map out each campus in Pinole to understand the current infrastructure and then develop a plan to reduce the heat islands in Pinole's schools and adjacent areas, including on walking routes by plant trees or increasing shade structures as appropriate.	N/A
EH-1b	Establish a tree removal replacement policy where trees that are removed are replaced with shade trees that are adapted to the area.	
EH-1c	In collaboration with Contra Costa Health Services, establish local early heat warning system that provides public health alerts in Spanish, Tagalog, and Cantonese.	
EH-1d	Complete an assessment that evaluates new cool pavement technology, cost/benefits, and challenges and opportunities. Upon completion of the study, conduct a pilot of cool pavement application at a centralized area in Pinole that is most impacted by extreme heat to demonstrate success of the program.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
EH-1e	Partner with WestCAT to audit existing bus stops in the City of Pinole with information detailing the current structures around the transit stops. Create a prioritization list of stops with low shading scores. Identify opportunities to add, replace, or upgrade existing transit stop shelters to provide increased shade for the transit riders and work with WestCAT to implement the identified opportunities.	
EH-1f	Identify trees, grasses, and shrubs with greatest cooling benefits and maximum biodiversity potential and plant them in prioritized open spaces.	
EH-1g	Identify grant funding opportunities and engage with local nurseries (e.g., Oaktown, Watershed Nursery, and Native Here) and tree planting programs to identify appropriate and cost-effective California native plants/trees that can be both planted in the ground or remain potted by residents living in rental/multi-family homes.	
EH-1h	Amend the Building Code to require cool roofs for all new construction.	
EH-1i	Partner with MCE and emergency management services to establish backup power and energy grid shutdown protocols that protect the most vulnerable populations (e.g., seniors, individuals with chronic health conditions, children, individuals with disabilities).	
EH-1j	Identify opportunities to apply compost as mulch at City open spaces to improve water-holding capacity and filtration to combat extreme heat.	
EH-1k	Identify a location in the City to establish a “Community Corner” redevelopment project as a model design project to reduce urban temperatures. Incorporate trees, grasses, and shrubs with the greatest cooling benefits into the project, utilize compost in the project’s landscaping, and incorporate cool pavement technology, cool roofs, and shade structures where applicable. Further consider incorporating a rain garden and resilience center resources into the redevelopment project and publicize all resilient design elements through signage on the property and community tours.	
EH-1l	Support development of community-serving microgrids and prioritize areas with high social vulnerability.	
Measure EH-2. Map out and create a mural or set of murals using reflective paint to reduce interior heat in areas of Pinole that are most impacted by the urban heat island effect by 2026.		
EH-2a	Partner with NASA, or a similar organization to create a digital map of the City showing neighborhoods where it is the hottest and identify a location or locations to pilot an urban heat mural project.	N/A
EH-2b	Post the map on the City’s website and host community feedback sessions to update the analysis included in the map based on real lived experiences. Additionally, post mural design concepts that are created as part of Action EH-2c to foster a sense of ownership over the project.	
EH-2c	Create a partnership with Contra Costa College, Pinole Artisans, West Contra Costa Unified School District, private schools, and/or similar interested parties and community-based organizations to design and paint mural(s) that inspire the community while reducing indoor heat using reflective paint.	
EH-2d	Install indoor and outdoor temperature sensors in the identified locations prior to completing the mural and continue to track data after the murals are installed to measure indoor changes in temperature to quantify the benefits of the project.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
EH-2e	Identify and apply for grants to fund the completion of the mural and/or work with cool paint manufacturers to supply a small amount of paint at no cost for a pilot project where their name would be included on a plaque with volunteer artists who partner with the City to donate their time and expertise to create a unique project.	
EH-2f	Host a community unveiling ceremony where the artists and project partners are invited to participate in a meet and greet and celebrate the community in an unveiling celebration that can also be used to provide the community with information on the status of the Climate Action and Adaptation Plan implementation and resources including relevant community incentives and rebates.	
Strategy WF: Wildfire		
Measure WF-1. Enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers and direct flame impingement in fire hazard severity zones and protect the community from wildfires.		
WF-1a	Partner with Housing Authority Contra Costa to conduct a study that estimates potential housing displacement impacts associated with wildfire events.	N/A
WF-1b	Conduct a feasibility study and if recommended, amend the Pinole Building Code Title 15 (Building and Construction) to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone.	
WF-1c	Develop a subsidy program to improve air quality in the homes of low-income residents or vulnerable community members to mitigate impacts from wildfire smoke.	
WF-1d	Partner with West Contra Costa Fire Safe Council to help secure grant funding for mitigation activities that promote fire safe retrofits of existing structures that meet ignition-resistant building codes.	
WF-1e	Conduct a built asset vulnerability assessment to identify which City-owned facilities and infrastructure have the highest risk to wildfire impacts, identify opportunities to mitigate risk and implement changes.	
WF-1f	Evaluate and help identify and apply for funding for infrastructure improvements at Pinole Fire Station 74 to mitigate against wildfire hazards (fire breaks, fire resistant building materials, etc.).	
WF-1g	Actively engage in collaborative efforts to reduce wildfire risks, implementing effective mitigation strategies, and fostering a culture of fire safety through education and community involvement to achieve Firewise ²² recognition.	
WF-1h	Prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas.	

²² Firewise USA® recognition program is administered by the National Fire Protection Association (NFPA) and provides a collaborative framework to help neighbors in a geographic area get organized, find direction, and take action to increase the ignition resistance of their homes and community and to reduce wildfire risks at the local level. The Firewise USA program is a part of California's efforts to ensure communities are prepared against wildfire, and CAL FIRE Office of the State Fire Marshal's new Community Wildfire Preparedness & Mitigation Division works to assist local communities in receiving this designation.

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
WF-1i	Continue to conduct proactive vegetation/weed abatement enforcement by removing vegetation and/or brush in areas adjacent to wildfire hazard zones, including both public and private property. Establish a comprehensive defensible space zone and fire breaks within the VHFHSZ, and a regular maintenance schedule. A FEMA approved HMP can establish eligibility for grant funding to complete fuel modification projects.	
WF-1j	Locate future critical facilities outside of the wildfire hazard zone.	
WF-1k	Continue to coordinate with PG&E through Rule 20A Program to underground utility lines to mitigate wildfire risk.	
WF-1l	Conduct on-going workshops on defensible space, vegetation management, and home-hardening techniques based upon most up to date CAL FIRE management guidelines and policies for landowners in fire hazard severity zones.	
WF-1m	Foster a community partnership that can successfully apply for and receive funding from programs such as the CAL FIRE Defensible Space Assistance Grant program and upcoming opportunities that become available.	
Municipal		
Strategy CIO: Strategy CIO: City Infrastructure and Operations		
Measure CIO-1. Upgrade all City accounts to MCE's Deep Green option by 2025 and electrify or otherwise decarbonize all municipal buildings and facilities by 2035.		
CIO-1a	Adopt an electrification ordinance in 2024 requiring all new municipal construction to be fully electric after calendar year 2024 without any natural gas connections.	N/A
CIO-1b	Complete an analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system. Pursue replacement funding through PG&E on-bill financing and California Energy Commission (CEC) 1% Loans.	
CIO-1c	By 2025, adopt a Resolution requiring the implementation of a building and facility electrification plan to electrify or otherwise decarbonize all municipal buildings by 2035.	
CIO-1d	Develop a plan to electrify or otherwise decarbonize all municipal buildings and facilities by 2035 which will include: - An inventory of existing fossil fuel-powered buildings and facility equipment, available electric or zero/low-carbon alternatives for replacing each, and relevant costs and benefits of replacing each (e.g., lifespan, equipment costs, operational quality). - A prioritized schedule for completion based on potential to reduce natural gas and propane usage. - Prioritize upgrades that benefit vulnerable communities first, such as the Senior Center, Youth Center, and Tiny Tots facilities.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-1e	Expand efforts to obtain funding for municipal building and facility decarbonization through grants, incentives, or financing provided by entities such as: - DOE Block Grants - Leases: Capital lease, Operating Lease, Tax-Exempt Lease purchase (4-5%) - Loans and Grants: 1% CEC Loan, Dept. of Energy Grants, Federal Grants (IIJA, IRA) - On-Bill Financing - Energy as a Service (EaaS) - Energy Savings Performance Contract (ESPC, guaranteed energy savings help pay for the project) from Energy Service Companies (ESCOs) - Grant Anticipation Notes or other Short-Term Notes/Loans	
CIO-1f	Upgrade all municipal electricity accounts to MCE Deep Green by 2025.	
CIO-1g	Plan, fund, and conduct an electrification pilot project at a municipal facility (e.g., the Library). Promote the demonstrated benefits of the fully electric building (e.g., cost-savings, GHG emission reductions) and publicize the planning, design, installation, and post-operation of the project to make the steps to electrification transparent to the community.	
CIO-1h	Partner with regional organizations such as the Building Decarbonization Coalition to train City staff, community members and volunteers on the benefits and technical requirements of electrification, help them implement the building and facility electrification plan and empower them to be advocates for electrification across the community.	
Measure CIO-2. Electrify or otherwise decarbonize 30% of the municipal vehicle fleet by 2026 and 100% by 2040.		
CIO-2a	Expand and update the City's fleet vehicle replacement schedule to transition 30% of the municipal vehicle fleet to ZEVs by 2026 and 100% by 2040. Review the replacement schedule and ZEV transition goals every 2 years and update them as needed based on updates to state regulation and ZEV market availability.	N/A
CIO-2b	Complete a Municipal Electric Vehicle Infrastructure Plan to analyze the City's charging needs through 2026 and 2040. The plan shall include: - A prioritized list of City-owned properties/locations to install new Level II and DC Fast chargers - An assessment of future electricity demand and potentially energy-constrained locations - A pathway to coordinate with PG&E on installing microgrids or back-up power at City-owned properties to support the ZEVs	
CIO-2c	Secure funding from state programs (such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program) and federal sources to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally, explore opportunities for Low Carbon Fuel Standard credit generation from use of low carbon fuels/electricity for fleet vehicles.	
CIO-2d	Dedicate staff time to implementing, tracking, and updating the City fleet vehicle replacement plan bi-annually.	
CIO-2e	Partner with an entity such as Contra Costa Transportation Authority, to train City staff on the use and charging of electric and zero-emission vehicles and educate them on the benefits of EVs/ZEVs.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-2f	Consider highlighting the City's EV/ZEV fleet at community events such as Earth Month.	
CIO-2g	Establish electric vehicle charging infrastructure at and around all City-owned facilities. Apply the profit from community charging towards installing electric vehicle infrastructure in vulnerable communities. Additionally, develop a thoughtful pricing plan that is reviewed and updated annually, or more frequently as appropriate.	
Measure CIO-3. Electrify or otherwise decarbonize all municipal off-road equipment by 2035, where feasible.		
CIO-3a	Complete an inventory of all municipal off-road equipment and determine which equipment types are possible to decarbonize based on existing technologies. Complete a cost analysis and schedule for decarbonizing.	N/A
CIO-3b	Adopt an emissions-free equipment purchasing policy by 2025 for light-duty vehicles and small off-road equipment and vehicles to require purchase and replacement of such categories be electric or emissions-free. Regularly update the policy to include more types of equipment and vehicles as electric and emission-free options become available. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives as well as the health benefits, for residents and businesses.	
CIO-3c	Dedicate staff time to implementing and tracking the success of the emissions-free purchasing policy established as part of CIO-3b.	
CIO-3d	Dedicate staff time and pursue funding opportunities to electrify and otherwise decarbonize municipal off-road equipment through programs such as: - CORE Incentives - Bay Area Air Quality Management District (BAAQMD) incentives including the Carl Moyer Program	
CIO-3e	Partner with the East Bay Regional Park District to co-lead a multi-lingual educational program for staff and City contractors detailing the benefits of using decarbonized off-road equipment, with an emphasis on improved worker health and details on comparable equipment productivity. Information from the educational program should be summarized into an infographic format and posted at parks, City-owned and operated buildings, and shared in the City's newsletter to highlight the emissions and overall health benefits in a way that is easily understood.	
CIO-3f	By 2030, begin procuring biofuels (e.g., biodiesel and biogas) to operate municipally owned off-road equipment with no existing opportunities for electrification. Re-evaluate electrification opportunities regularly to ensure biofuels are not being used for equipment that could otherwise be electrified.	
Measure CIO-4. Reduce employee VMT 20% by 2035, from 2019 levels by developing and implementing a municipal Transportation Demand Management (TDM) Plan by 2028.		
CIO-4a	With employee input, develop a municipal Transportation Demand Management (TDM) Plan by 2028 to encourage and incentivize City employees to reduce their VMT in single-occupancy and fossil-fuel-powered vehicles. Update the plan every 2-3 years based on survey results (e.g., Action CIO-4d) and newly available public transit and bike routes in the community.	N/A

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-4b	Create an incentive program to reward City employees for biking, ridesharing, and using public transit to commute to work. The program shall provide free public transit passes and free access to electric bicycle programs (where available) to all municipal employees and may include cash incentives or additional paid time-off for employees who bike, rideshare, and use public transit to commute to work.	
CIO-4c	Investigate the opportunity to create zero-interest loan program to help employees purchase ZEVs for commute.	
CIO-4d	Develop a remote work policy that encourages municipal office employees to work from home and includes alternative work schedules where feasible.	
CIO-4e	Explore options for installing showers in existing City-owned facilities and bike lockers along City-owned streets, where appropriate, to encourage City employees to bike to work and demonstrate the City's commitment to sustainability and community bicycle safety.	
CIO-4f	Partner with an entity such as the WestCAT or the Bay Area Air Quality Management District (BAAQMD) to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools. Additionally, partner with 511 Contra Costa to help employees find a carpool match.	
CIO-4g	Promote and encourage employee participation in regional and national bike-to-work days/months.	
CIO-4h	Develop funding sources to support incentives for City employees to commute to work via EV/ZEV options such as free or discounted employee charging at work.	
CIO-4i	Publish the municipal TDM Plan on the City's website and distribute to local businesses to provide the community an example of comprehensive TDM plans that focused on GHG emission reductions and equity.	
CIO-4j	Conduct a survey for City staff commute data annually to monitor emissions, identify potential gaps in planning, and better understand how to elicit employee transportation behavior change. Include space for employee feedback and identification of barriers to commuting without a personal vehicle.	
CIO-4k	Dedicate staff time to develop, implement, and update the municipal TDM Plan and conduct the annual survey.	
Measure CIO-5. Reduce waste generation by 15% by 2025, from 2019 levels and landfill zero waste by 2035.		
CIO-5a	Conduct an indoor and outdoor water audit at all municipal buildings and schedule develop a schedule for water efficiency improvements.	N/A
CIO-5b	Adopt a Resolution and assign funding to retrofit or replace all inefficient shower heads, faucets, washing machines, and toilets with low-flow fixtures/water-efficient appliances in existing City-owned, managed, or operated facilities, such as, but not limited to, the Pinole Swim Center, Pinole Senior Center, Pinole Youth Center, and Public Service Facilities by 2030.	
CIO-5c	Update the municipal purchasing policy to require WaterSense labeled fixtures and appliances, where feasible. This includes continuing to install waterless units such as urinals and sensor activated sinks.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-5d	Require all non-functional lawns (i.e., grass that is ornamental and not used for recreational purposes) on City-owned property to be removed by 2035 and replaced with native and drought-tolerant landscaping and/or multi-use landscaping (e.g., pollinator-friendly landscapes, edible landscapes).	
CIO-5e	Identify, track, and actively pursue funding opportunities from entities such as the California Department of Water Resources and the California Environmental Protection Agency.	
CIO-5f	Partner with the Pinole Community Garden Club, Contra Costa County Master Gardeners, or Bringing Back the Natives to educate City employees and the community on water-wise gardening practices, native plants, and growing food, with a focus on the most vulnerable communities.	
CIO-5g	Develop and implement a plan to update City-owned properties with improved green stormwater infrastructure (e.g., stormwater systems that direct water towards vegetation, permeable surfaces).	
CIO-5h	Install submetering at City owned and operated buildings and facilities to track and monitor water use, including creating a succinct way to internally track specific use and complete repairs or prepare targeted education.	
CIO-5i	Install rain barrels at the Library to water the native garden as a demonstration project to educate the community about the benefits of collecting rainwater and available incentives. Based on the project's success, consider installing rain barrels at all City facilities for use in landscaping.	
Measure CIO-6. Reduce municipal water consumption 10% by 2030, from 2019 levels.		
CIO-6a	Require implementation of the Single Use Plastic Ordinance at all City departments, events, and contracts.	N/A
CIO-6b	Provide reusable mugs and foodware items to all new and existing employees to use in an effort to encourage the use of reusable alternatives to single-use items. Provide information on the benefits of reusing resources.	
CIO-6c	Complete an audit on current bin infrastructure and bin signage in each municipal facility and at City events. Establish a clear plan to install/distribute adequate compost and recycling bins throughout all facilities and to all events, and improve signage so that accepted landfill, recyclable, and compostable materials are clearly identified for each bin.	
CIO-6d	Partner with an entity such as Republic Services to provide annual training to City employees on current waste management practices, any modifications to the practices, and proper disposal methods. Empower them to educate the community on the benefits and proper methods of recycling and composting and use this as an opportunity to promote the City's existing programs, such as the free mulch program, shredding program, household hazardous waste collection, as well as expand programs as appropriate.	
CIO-6e	Work with CalRecycle and similar entities to identify and secure grants that fund waste diversion and educational programs.	
CIO-6f	Create a shared resource area within each City-owned facility dedicated to lightly used office supplies such as staplers, tape dispensers, pens, and pads of paper, facilitating the reuse of items among staff members and promoting efficiency and reducing waste.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CIO-6g	Partner with local jurisdictions including surrounding cities and the county to create an inter-office or inter-jurisdiction surplus program where City offices can provide items (e.g., pieces of furniture) for reuse for free to other offices within the City or other jurisdictions.	
CIO-6h	Create a buy-nothing group for City staff to share resources and items that they may no longer be interested in or have a use for at their homes.	
CIO-6i	Perform a waste audit every two years to track waste sources, gaps in signage and education, and opportunities to strengthen the purchasing policy (e.g., based on problem-some materials continuing to the landfill or the contaminating recycling and composting streams).	
Measure CIO-7. Retrofit existing infrastructure owned and operated by the City, such as the Pinole-Hercules Water Pollution Control Plant, located in the areas at risk of sea level rise.		
CIO-7a	Complete a feasibility study to evaluate various options for infrastructure improvements of Pinole-Hercules Water Pollution Control Plant to mitigate against sea level rise and flood hazards. Develop a long-term management plan to address impacts of sea level rise, which incorporates any potential maintenance, relocation, or retrofits and structural changes to accommodate changes in sea level.	N/A
CIO-7b	Collaborate with the San Francisco Bay Regional Water Quality Control Board to increase the Pinole-Hercules Water Pollution Control Plant's resilience to sea level rise and stronger storms. For example, implement a trigger-based Coastal Hazard Monitoring Program, which would allow to implement improvements or relocate in a timely manner, and conduct feasibility studies from technical experts, retrofitting, relocating, or eliminating outfalls deemed "at risk."	
CIO-7c	Provide alternate routes and ensure redundancy of critical transportation routes, as possible, to allow for continued access and movement to and along the coast in instances in which sections of roadways may become temporarily impassible because of shoreline hazards. Additionally, inform City staff, residents, and visitors about alternate routes to shoreline areas.	
CIO-7d	Host working groups with community-based organizations, experts in the field, and interested parties to identify and prioritize vulnerable communities, involve them in decision-making, use community benefits agreements, prioritize underserved communities, and consider the financial impact on residents.	
CIO-7e	Identify and apply for a grant funding source to fund facility upgrades, relocation, or additional analysis through entities such as the San Francisco Bay Conservation and Development Commission, California Coastal Commission, National Oceanic and Atmospheric Administration (NOAA), or Federal Emergency Management Agency (FEMA).	
CIO-7f	Conduct a detailed and City-specific groundwater emergence threat assessment, factoring in local geomorphology and groundwater data, for use in future planning and analysis.	
CIO-7g	Incorporate policy guidance and model ordinance language in Citywide plans, policies, and regulations to prioritize strategies that reduce potential impacts due to sea level rise and shoreline hazards and increase the resilience of the City's shoreline areas.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
Strategy CG: City Governance		
Measure CG-1. Build staffing capacity to effectively implement the CAAP Mitigation Measures and update the CAAP triennially.		
CG-1a	Create a new full-time staff position to oversee CAAP implementation, monitoring, and reporting; and cross-department collaboration (i.e., Climate Coordinator work in Action CG-1).	N/A
CG-1b	Identify a Climate Coordinator from each of the City's main departments and divisions. The Climate Coordinators will meet for quarterly sustainability peer-to-peer information sharing sessions to discuss challenges, brainstorm solutions, and track progress towards reaching the City's CAAP key performance indicators. This team will serve as the key organizers for cross-departmental collaboration needed to implement climate goals, as well as community contacts and key researchers for emerging technologies and best practices in climate action.	
CG-1c	Conduct an annual staff survey to determine the following: - Existing staff interest in leading climate initiatives to identify internal champions. - Staff capacity to implement CAAP actions, monitor progress, and report updates; and associated capacity gaps to fill.	
CG-1d	Include a description of Pinole's climate goals and values in job postings, improving talent acquisition and potentially boosting retention and worker morale.	
CG-1e	Identify and apply for climate staffing assistance through fellowship/internship programs including the Climate Corps Fellowship, California Pacific University, and CivicSpark to increase internal staff capacity for CAAP implementation and bring in innovative ideas.	
CG-1f	Earmark funding for CAAP updates.	
Measure CG-2. Establish reporting procedures to implement the CAAP measures and transparently communicate progress to the community.		
CG-2a	Join the Institute for Local Government's Beacon Program to support transparent CAAP reporting through access to technical assistance, regional networking and education opportunities, and opportunities to recognize Pinole's climate action achievements.	N/A
CG-2b	Conduct a communitywide GHG inventory every two years and a municipal GHG inventory every five years.	
CG-2c	Report communitywide GHG emissions and progress on Mitigation Measures annually through public reporting tools (e.g., CAPDash) and utilize social media to post updates and results so the community can easily stay up to date.	
CG-2d	Regularly update Pinole's CAAP webpage, Sustainability webpages (e.g., Community Choice Energy, EV Charging Stations, Single Use Plastic Reduction), and applicable Public Works webpages (e.g., Water, Garbage and Recycling, Trees) to provide up-to-date information on ordinance, program, and policies as they are updated through CAAP implementation.	
CG-2e	Explore and track the success of different ways to communicate climate progress transparently to the public (e.g., a dashboard, semi-regular social media posts, City webpages, Pinole TV). Track the number of clicks made on specific links to identify the most successful mechanisms for engagement.	

Move ID #	Strategies and Respective Supporting Measures and Actions	Anticipated GHG Emissions Reduction by 2030 (MT of CO ₂ e) ¹
CG-2f	Translate key climate outreach materials into non-English languages. Explore partnerships through nonprofits and other organizations that can assist in translation of key materials.	
CG-2g	Communicate Pinole's climate and green economic development commitments through City branding and communications (beyond dedicated webpages and resources) and utilize existing City meetings and events to emphasize the importance of climate action and bring it into regular City and community discussions.	
CG-2h	Earmark annual funding for the CAAP update in the budget to demonstrate commitment to implementation and monitoring and to provide a consistent conduit of funding.	
Note: MT of CO ₂ e = metric tons of carbon dioxide equivalent		
Source: Compiled by Rincon based on information contained in the Draft Pinole Climate Action and Adaptation Plan.		

The measures and actions shown above in Table 2, combined with existing State legislation and City initiatives, would enable Pinole to meet its GHG emissions reduction target pathway to reduce GHG emissions 40 percent below 1990 levels by 2030. Table 3 summarizes the communitywide GHG emissions forecasts under the BAU and ABAU scenarios, as well as with implementation of the Pinole CAAP, beginning from 2025 through 2045.

Table 3 Pinole 2030 GHG Emissions Forecasts (MT of CO₂e)

GHG Emissions Pathways	2025	2030	2035	2040	2045
BAU Forecast	79,501	84,515	88,764	93,183	97,772
Adjusted Forecast	69,558	68,902	67,403	68,262	69,901
Forecast with CAAP	59,697	47,273	33,147	17,810	1,155

Source: Compiled from the Pinole Climate Action and Adaptation Plan

Figure 4 depicts the 2030 and 2045 GHG emissions targets for Pinole, including anticipated emissions once the measure and actions listed in Table 2 are implemented. Figure 4 also illustrates the forecasted BAU and ABAU emissions, and the target pathway to achieve carbon neutrality by 2045.

Figure 4 Pinole GHG Emissions Projections and Targets

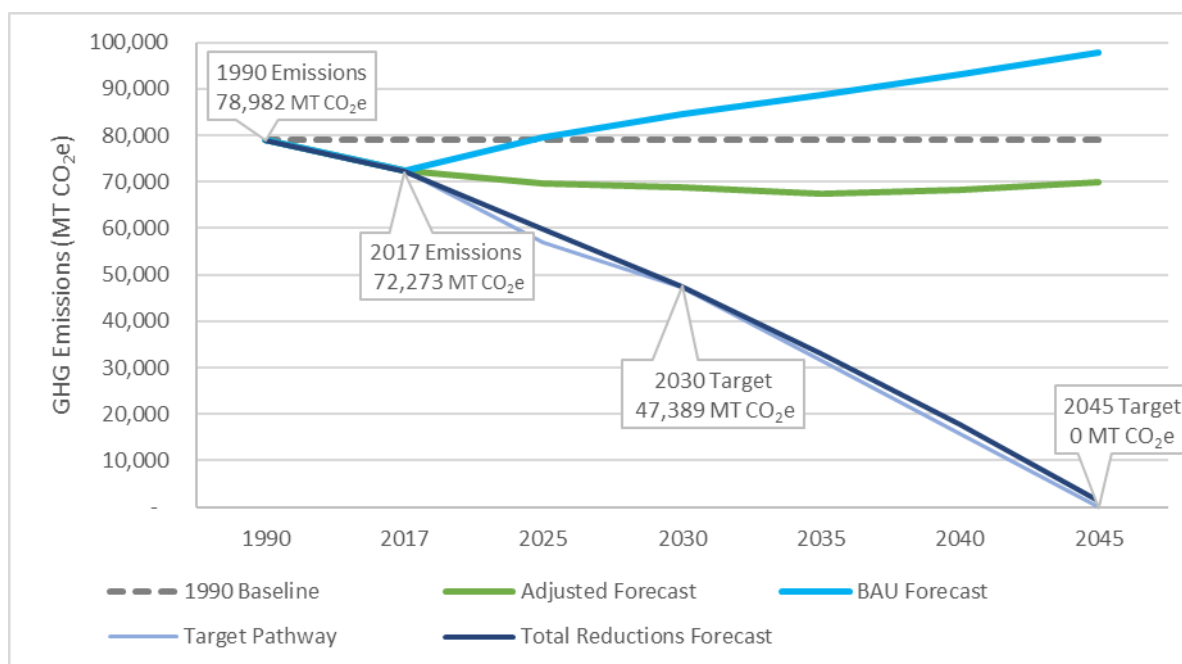


Table 4 shows the Pinole climate action target emissions and the emissions reductions expected from implementing the measures and actions shown in Table 2. Table 4 also shows that Pinole would meet its 2030 GHG reduction target and make substantial progress towards the 2045 goal of carbon neutrality.

Table 4 Targets Versus GHG Reductions

Target/Forecast	2030 GHG Emissions (MT of CO ₂ e)	2045 GHG Emissions (MT of CO ₂ e)
Adjusted Forecast	68,902	69,901
Pinole Targets	47,389	0
GHG Reductions from Full Implementation of CAAP Measures	21,628	68,746
GHG Emissions after Measure Reductions (Adjusted Forecast – GHG Emissions Reductions)	47,273	1,155
Target Anticipated to be Met?	Yes	Substantial progress demonstrated
MT of CO ₂ e = metric tons of carbon dioxide equivalent Source: Compiled from the Pinole Draft CAAP and the GHG Forecast Report		

The CAAP would provide substantial progress toward meeting the City's carbon neutrality goal by 2045. However, full implementation of the Pinole CAAP would leave a gap of approximately 1,155 MT of CO₂e that would still need to be addressed to achieve carbon neutrality. As such, the Pinole CAAP acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for adopting CAAP updates every five years. This allows for certainty in the updated schedule, confirms that the carbon neutrality work is directly tied to the City's financial decision making and prioritization process and allows for constant integration of learning, best practices, and new measures and technologies to further the City toward meeting its goal of carbon neutrality.

Implementation of the Pinole CAAP measures and actions identified in Table 2 could result in physical changes that could potentially have an impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the measures and actions are taken into account in considering potential environmental impacts that could occur through implementation of the CAAP. For example, the use of carbon-free electricity may require the installation of new infrastructure to accommodate use and transmission of alternative and renewable fuels. Similarly, increasing the use of EVs would require the installation of EV charging stations and supporting infrastructure. Additionally, Pinole's CAAP implementation may require the installation of new bicycle or pedestrian facilities. These types of activities would introduce physical changes, such as the temporary presence and operation of construction vehicles and equipment during installation of required facilities, and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and EV charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses may identify required plan- or project-specific mitigation measures where applicable.

Pinole CEQA GHG Emissions Thresholds

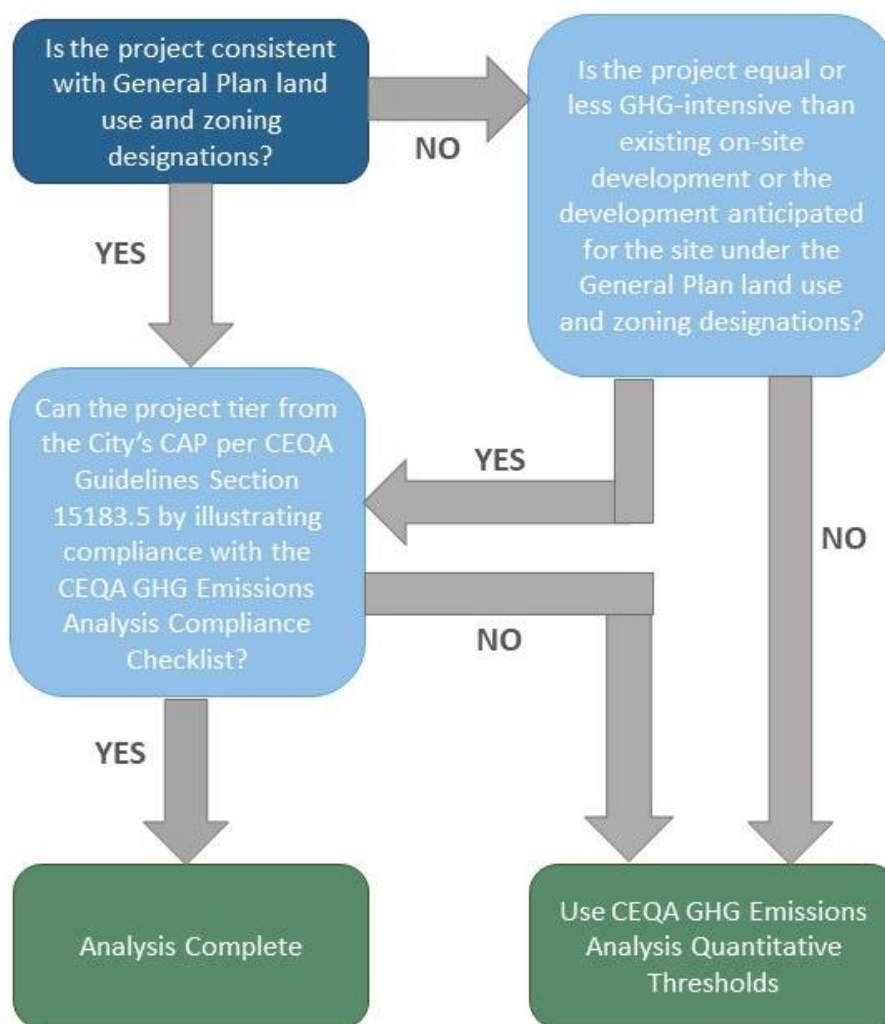
In 2007, SB 97 acknowledged that climate change is an environmental issue that requires analysis in CEQA documents, and in 2010 the California Natural Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines gave lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. Specifically, Section 15183.5(b)(1)A-G of Title 14 of the California Code of Regulations was amended to state that a

qualified GHG Reduction Plan, or a Climate Action Plan, may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation, provided that the GHG Reduction Plan or Climate Action Plan does the following:

- Quantifies GHG emissions both existing and projected over a specific period of time, resulting from activities within a defined geographical area.
- Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.
- Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establishes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.
- Be adopted in a public process following environmental review.

Therefore, the City of Pinole proposes to also adopt quantitative efficiency thresholds for use in evaluating whether a plan or project's GHG emissions would result in a potentially significant environmental impact under CEQA for plans or projects with pre-2030 buildout or initial operation years. The CEQA GHG emissions thresholds would be applied to plans or projects that cannot tier from the environmental analysis for the Pinole Climate Action and Adaptation Plan (as contained in this Initial Study- Negative Declaration [IS-ND]) due to one of the following circumstances, which are illustrated in Figure 5:

- The plan or project would not be consistent with the Pinole General Plan land use and zoning designations for the project site and would result in greater GHG emissions than existing on-site development; or
- The plan or project would not be consistent with the CEQA GHG Emissions Analysis Compliance Checklist.

Figure 5 Determining CEQA GHG Emissions Analysis Methodology

These thresholds are set at the level of GHG emissions that new development would need to achieve to be consistent with the Pinole CAAP's communitywide emissions reduction target of 47,389 MT of CO₂e by 2030. The efficiency thresholds, listed below, are expressed in terms of MT of CO₂e per service person²³ and are applicable to plans or projects with pre-2030 buildout or initial operational years:

- 0.89 MT of CO₂e per resident
- 1.53 MT of CO₂e per employee
- 1.10 MT of CO₂e per service person²⁴

Efficiency thresholds for beyond 2030 would be established later in conjunction with subsequent CAAP amendments.

²³ The service population is equal to the residential population plus half the number of jobs.

²⁴ Pinole, City of. 2023. Draft CEQA GHG Thresholds.

Plans or projects that do not tier from the Pinole CAAP IS-ND that would generate GHG emissions in excess of these thresholds would result in a potentially significant impact on the environment related to GHG emissions and climate change. Mitigation measures would be required to reduce potentially significant impacts resulting from such plans or projects. Plans or projects that are unable to reduce GHG emissions below these thresholds through implementation of identified mitigation measures would result in a significant and unavoidable environmental impact. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have direct construction or operational impacts.

Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Pinole CAAP and CEQA GHG Emissions Thresholds, the cumulative projects scenario is the population, employment, and households' forecasts identified in the supporting documentation for the City, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050. The cumulative projects scenario is shown in Table 6.

Table 5 Cumulative Projects Scenario

Demographic s/ Sector	2017	2025	2030	2035	2040	2045
Population ¹	19,663	27,718	32,110	24,592	26,168	27,845
Employment ²	7,970	8,963	9,645	10,379	11,168	12,018
Households ²	6,901	7,431	7,783	8,151	8,536	8,940
Service Population ³	27,633	36,681	41,755	34,971	37,336	39,863

1. Demographic metrics were calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050.

3 Service population is calculated as the combined total number of employees and residents in the City.

Source: Rincon Consultants, Inc. City of Pinole Greenhouse Gas Emissions Forecasts and Provisional Target Memorandum. Updated January 2024.

Required Approvals

City of Pinole

Required approvals include:

- Adoption of the Pinole CAAP and CEQA GHG Emissions Thresholds IS-ND
- Adoption of the Pinole CAAP
- Adoption of the Pinole CEQA GHG Emissions Thresholds

Although individual plans or projects may be implemented later under the umbrella of the CAAP, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Pinole has sole approval authority over the CAAP as well as the CEQA GHG Emissions Thresholds. There are no other public agencies whose approval is required.

Environmental Factors Potentially Affected

This project²⁵ would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Energy |
| ☐ Geology and Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards and Hazardous Materials |
| ☐ Hydrology and Water Quality | ☐ Land Use and Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population/Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Tribal Cultural Resources |
| ☐ Utilities/Service Systems | ☐ Wildfire | ☐ Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- ☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

²⁵ Note that the CAAP is a plan; however, this language and the significance criteria questions language throughout this IS-ND are taken directly from CEQA Guidelines Appendix G, which refers to a “project” generally but is applicable to either a project or plan.

- ☐ I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Lead Agency Representative Signature

Date

Lead Agency Representative Printed Name

Title

Environmental Checklist

1 Aesthetics				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? | ☐ | ☐ | ☒ | ☐ |
| c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☒ | ☐ |
| d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

- a. *Would the project have a substantial adverse effect on a scenic vista?*
- b. *Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

According to the Pinole General Plan and California Scenic Highway System,²⁶ there are no scenic roadways or highways in the City of Pinole. However, the General Plan notes that the City has several important environmental visual resources, and the Community Character Element discusses built visual (scenic) resources in Pinole.²⁷ As stated in the General Plan Natural Resources and Open

²⁶ California Department of Transportation (CalTrans). <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways> Accessed February 2024

²⁷ Pinole, City of. 2010. General Plan, Introduction. https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter1.pdf (accessed January 2024)

Space Element, the City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines, and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. As stated further in the Community Character Element, Old Town Pinole, along San Pablo Avenue, contains a variety of architectural styles that mirror the community's historical development and development pattern.

General Plan Goal OS6, which includes Policies OS.6.1, Scenic Resources, and OS.6.2, View Protection, as well as Policy OS.3.14, Open Space Preservation and Management, aim to protect scenic resources that help define and distinguish Pinole as a unique and desirable community and provide linkages between recreational areas and open space. This includes preserving significant knolls, stands of trees, rock outcroppings, and ridgelines within the City through scenic easements, where feasible, and ridgeline preservation measures. Additionally, Policy CC2.2 included in the Community Character Element, aims to preserve natural resources within the built environment, including trees, marshes, creeks, and hillsides. Policy OS.2.1 similarly aims to protect native vegetation, by protecting, preserving, and creating conditions that will promote the preservation of significant trees and other vegetation, particularly native to California and the region.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to scenic vistas and scenic highways. As a policy document, the CAAP would not result in impacts related to scenic vistas and scenic highways. However, implementation of some CAAP measures may promote infrastructure development and other physical changes through policies and programs. CAAP Measure BE-5 would promote installation of small-scale solar PV systems. CAAP Measure TR-1 would improve bicycle and pedestrian facilities throughout the City and Measures TR-4, TR-5, and CIO-2 encourage the installation of EV charging stations and supporting infrastructure. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. CAAP projects would generally be limited to the existing developed areas of the City and would be small-scale in nature. Additionally, expansion of the urban forest could have a positive effect on scenic vistas, adding new tree cover and enhancing existing natural landscapes.

The CAAP would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. Though the implementation of the CAAP may result in future development, CAAP-related projects and actions, including those identified above, would be required to adhere to City development zoning and regulations, including the City's applicable Design Guidelines, which establish criteria for the aesthetic qualities of development in Pinole in order to preserve and enhance the desired character of existing neighborhoods.²⁸ Compliance with the City's Design Guidelines would confirm that potential future infrastructure development and redevelopment related to the CAAP would be carefully integrated with the existing character of Pinole, minimizing potential aesthetic impacts. In addition, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan policies related to scenic resources prior to approval. As such, the CAAP would not result in adverse impacts related to scenic vistas or State scenic highways within the City. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***less-than-significant impacts*** related to scenic vistas and scenic highways.

- c. *Would the project in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are*

²⁸ Pinole, City of. 2018. Design Review. https://www.ci.pinole.ca.us/city_government/planning/design_review (accessed January 2024).

experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Pinole is a primarily urbanized area with the following applicable visual character/quality policies in the Pinole General Plan Land Use and Community Character, Natural Resources, and Community Health and Quality of Life Elements. In 2023, Pinole updated the City's General Plan Housing Element²⁹ pursuant to State law, which requires an update to the Housing Element of the General Plan every eight years. The City is currently drafting an Updated Health and Safety Element and creating a new Environmental Justice Element.

Community Character Element

- **Policy CC.1.1.** All new development and redevelopment shall adhere to the basic principles of high-quality urban design and architecture including, but not limited to, human-scaled design, pedestrian orientation, and interconnectivity of street layout, siting buildings to highlight important intersections, entryways, focal points and landmarks.
- **Policy CC.1.2.** Require all new development to incorporate high-quality site design, architecture and planning to enhance the overall quality of the built environment in Pinole and create a visually interesting and aesthetically pleasing town environment.
- **Policy CC.1.3** To enhance a sense of arrival and create a strong appealing image that promotes community identity, the City shall develop community entry features at key gateways or city entries along Interstate 80. Entryways shall incorporate landscaping, trees, structural architectural elements, signage and public art.
- **Policy CC.1.5** Encourage project compatibility, interdependence and support with neighboring uses, especially between commercial and mixed-use centers and the surrounding residential neighborhoods. Uses should relate to one another with pedestrian connections, transit options, shared parking, landscaping, public spaces, and the orientation and design of buildings
- **Policy CC.2.1** Provide visual and physical connections between the natural environment and the built environment through careful site design, building placement, architectural features that allow views of Pinole's unique environment such as ridgelines or the San Pablo Bay shoreline, public access to open space such as via the Bay Trail, and the use of native vegetation in the urban environment such as for landscape buffers for sidewalk areas and street trees.

Land Use and Economic Development Element

- **Policy LU.1.3** Establish and implement a continuing program of civic beautification, gateway or entryway enhancement, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment and attractive neighborhood areas.
- **Policy LU.3.3** Require design review of commercial and industrial projects to ensure compatibility with adjacent or nearby land uses, including intensity, access, internal circulation, visual characteristics, noise, odors, fire hazards, vibrations, smoke, discharge of wastes and nighttime lighting.
- **Policy LU.5.1** Designate any undeveloped ridgelines and hillsides as Low Density Residential, Rural, or Open Space.

²⁹ Pinole, City of. General Plan Housing Element 2023-2031. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/Housing%20Element/2023-2031%20Housing%20Element%20-%20Certified.pdf (accessed January 2024)

- POLICY LU.6.3 Provide waterfront parks, pedestrian pathways and recreation areas that are safe, accessible, and attractive for public use.

Natural Resources and Open Space Element

- **Policy OS.1.3** Hillside, Ridgelines, and View Corridors. Retain and protect sensitive hillside and ridgeline habitat, tree groves, and view corridors as shown on Figure 10.4.
- **Policy OS.2.4** Riparian Areas and Creek Setbacks. Lands adjacent to riparian areas shall be protected as public or private permanent open space through dedication or easements. Riparian vegetation outside the setback should also be protected. Riparian areas within the City include but are not limited to: (1) Pinole Creek (2) Catty Creek (3) Duncan Canyon/Cole Creek; (4) Shady Draw; (5) Faria Creek and (6) Roble Creek and shall be protected from further degradation and enhanced during review of adjacent proposed development.
- **Policy OS.3.3** Cluster Development. Encourage cluster development and other creative site planning techniques to preserve open space, trails and visual, habitat, recreation and archaeological resources.
- **Policy OS.3.5** Buffers for Sensitive Resources. When activities close to open space resources within or outside the urban area could harm these resources, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values.
- **Policy OS.3.6** Minimize Environmental Impacts. Encourage development patterns which minimize impacts on the City's biological, visual, and cultural resources, and integrate development with open space areas.
- **Policy OS.3.7** Preserve Natural Features. Retain sensitive habitat areas in their natural state, where possible, and protect from inappropriate development and landscaping. New development shall incorporate natural features present on the site such as a creek, steep topography or natural vegetation, where feasible, unless appropriate mitigation measures can be incorporated.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to aesthetics. The CAAP would promote sustainable infrastructure development and redevelopment through policies and programs. Implementation of some CAAP measures related to renewable energy, transportation, GHG sequestration, and extreme heat may result in physical changes that could impact scenic resources. Specifically, CAAP Measure BE-5 would promote installation of local community-scale solar photovoltaic (PV) systems at existing municipal facilities and in new or majorly renovated multi-family and commercial developments. Likewise, implementation of Measure BE-5 would also include installation of a co-located community solar and storage facility to benefit affordable housing sites. Measure TR-1 would improve bicycle and pedestrian facilities throughout the City by creating a safe and connected active transportation network linked to Pinole Creek, and Measures TR-4, TR-5, and CIO-2 support the

installation of EV charging stations and supporting infrastructure. CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect.

Implementation of small-scale solar panels, introduction of EV charging infrastructure, expanding Pinole's urban forest, and installing green/cool roofs and cool pavement may slightly change the scenic character. However, future CAAP-related projects would be located and designed to be complimentary to existing land uses and would be required to adhere to the City development zoning and regulations that seek to preserve the character of Pinole and minimize environmental impacts. In addition, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan policies highlighted above and other applicable regulatory policies, such as the Zoning Ordinance and applicable Specific Plans and design guidelines, prior to approval. Therefore, the CAAP and CEQA GHG Emissions Thresholds would not conflict with applicable zoning and other regulations governing scenic quality and would result in a ***less-than-significant impact***.

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to light and glare. The CAAP would promote sustainable infrastructure development and redevelopment that is complimentary to existing land uses in the City. As a policy document, the CAAP would not directly result in impacts related to light and glare. However, implementation of CAAP Measure BE-5 encourages the installation of solar panels and battery storage systems at new or majorly renovated multi-family and commercial buildings. Solar panels have the potential to result in new sources of glare within Pinole if not thoughtfully designed and located. The design and location of proposed solar infrastructure would be complimentary to existing development in Pinole, such as the addition of small-scale rooftop solar panels, to reduce potential glare impacts within the City. Furthermore, CAAP projects would be reviewed for consistency with the CCR Title 24 lighting standards (CCR Title 24 Part 6), the City's Municipal Code (Chapter 17, Article 46 Lighting), applicable Specific Plans (e.g., the Three Corridors Specific Plan), and design guidelines, which includes a review of exterior lighting.^{30,31} In addition, CAAP projects or actions would be reviewed for consistency with the Pinole General Plan and other applicable regulatory land use actions prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by complying with standard conditions of approval requiring the shielding of exterior lighting and limiting spillover lighting. Thus, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to light and glare.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). Cumulative impacts related to scenic resources, visual character, and increased light and glare

³⁰ California Energy Commission (CEC). 2022. 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf (accessed January 2024).

³¹ Pinole, City of. Municipal Code. https://codelibrary.amlegal.com/codes/pinole/latest/pinole_ca/0-0-0-10163 (accessed January 2024).

would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to Pinole General Plan policies, the municipal code, and applicable Specific Plans and design guidelines. As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Because of the developed nature of Pinole, future infrastructure projects under the CAAP, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not adversely impact the visual character of the community. In addition, future development in the City would be required to comply with the City's Design Review process and be reviewed against applicable Pinole General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to aesthetics.

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- e.1. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

Pinole is characterized primarily by suburban development. The California Farmland Mapping and Monitoring Program classifies Pinole as Urban and Built-Up Land, Grazing Land, and Other Land. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in Pinole.³²

³² California Department of Conservation. 2022. California Important Farmland Finder. <https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed January 2024).

Likewise, there are no parcels of non-Prime Farmland in Pinole that are enrolled in Williamson Act contracts.³³

The CAAP measures focus on building electrification, active transportation, zero emission vehicles, public transit, water conservation, solid waste diversion, urban greenspace and trees, as well as community adaptation and resilience, flood control, sea level rise, extreme heat, and wildfire. CAAP measures would not involve projects or policies that would result in impacts related to conversion or loss of Farmland. Additionally, the CEQA GHG Emissions Thresholds do not propose development or changes to land use and zoning that could result in the loss of farmland or conflict with existing agricultural zoning. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or Pinole General Plan land use designations.

- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e.2. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

Pinole contains several open space and preserved areas that include the Pinole Creek and Watershed, the shoreline along San Pablo Bay, ridgelines around Pinole, and the addition of a portion of the Bay Trail in Pinole.³⁴ Additionally, while Pinole contains riparian forests, it does not contain areas designated for forest land or Timberland Production. The Pinole Municipal Code Chapter includes a variety of sections that establish policies, regulations, and standards to protect trees within the City, including the Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, b, and e1, as well as Policy SE.7.2, which aims to support the expansion of tree planting and landscape practices that encourage the use of trees, plants, and vegetation. The CAAP aligns with the Pinole General Plan by including measures and actions such as CAAP Measure CS-1, which establishes a goal to increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. As such, the CAAP would increase the planting of trees within the City and be consistent with the City's regulations. The CAAP does not include actions that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Likewise, the CEQA GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of forestland or conflict with existing zoning for forest uses. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to degradation of forestry

³³ California Department of Conservation. 2022. California Williamson Act Enrollment Finder. <https://gis.conservacion.ca.gov/portal/home/webmap/viewer.html?webmap=18f7488c0a9d4d299f5e9c33b312f312> (accessed December 2023).

³⁴ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or General Plan land use designations.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. As the City's population, employment, and housing grows and development intensifies in the future, CAAP Measure CS-1 would increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. As discussed above, the CAAP would not include any measures or actions that would significantly impact agricultural or forest resources. In addition, the CAAP would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Therefore, implementation of CAAP would result in ***no cumulative impact*** related to agricultural and forestry resources.

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the United States Environmental Protection Agency (U.S. EPA) at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Pinole is located within the San Francisco Bay Area Air Basin (the Air Basin), which includes the nine Bay Area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma. The Air Basin is under the jurisdiction of BAAQMD. As the local air quality management agency, BAAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Air Basin is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. BAAQMD is in non-attainment for the State and federal ozone standards, the State and federal PM_{2.5} (particulate matter up to 2.5 microns in size) standards, and the State PM₁₀ (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.³⁵ The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

³⁵ Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status> (accessed December 2023).

The Bay Area 2017 Clean Air Plan provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the Clean Air Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with State air quality planning requirements as codified in the California Health and Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour State ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, State law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins.³⁶

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.³⁷ The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The CAAP would not involve land use or zoning changes but would rather promote sustainable infrastructure development and redevelopment. Likewise, the CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. CAAP measures and actions focus on electrification of buildings and sustainable development, increasing local renewable energy infrastructure, improving active transportation, zero emission vehicle and public transit infrastructure, and increasing urban trees. Implementation of CAAP measures, such as those aimed at reducing VMT, electrifying vehicles, and reducing natural gas use through building electrification, would have co-benefits to air quality within the Air Basin. These measures would help BAAQMD meet applicable air quality plan goals and would generally reduce air pollutant concentrations. Although the purpose and intended effect of the CAAP is to reduce GHG emissions generated in Pinole to help reduce the effects of climate change, many of its measures would also reduce criteria pollutant emissions. CAAP Measures BE-1, BE-2, and BE-3 involve increased energy efficiency and building electrification as part of residential, non-residential, and municipal land uses. In addition, CAAP Measures TR-1, TR-2, and TR-3 seek to reduce VMT in the City by improving active transportation and public transit facilities, while Measures TR-4, TR-5, and T-6 would encourage the adoption of zero emission vehicles (ZEV) and low-emissions off-road vehicles and equipment by enhancing EV infrastructure. These energy- and transportation-related measures would reduce air pollutant emissions as well as GHG emissions. Therefore, the CAAP and CEQA GHG Emissions Thresholds would be consistent with the 2017 Clean Air Plan and would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

³⁶ BAAQMD. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. <https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans> (accessed December 2023).

³⁷ California Air Resources Board (CARB). 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed December 2023).

- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to an increase of criteria pollutants. Likewise, the CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAAP would not result in impacts related to criteria pollutants. However, implementation of the following CAAP measures may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAAP Measures BE-2 and BE-2 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures TR-4, TR-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits for existing buildings and landscaped areas. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of CAAP actions would not include large-scale construction within Pinole and would involve temporary and short-term criteria pollutant emissions. As such, the CAAP would result in low-level criteria pollutant emissions and negligible impacts to air quality. Through the standard review process for new development or Capital Improvement projects, CAAP projects or actions would also be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations. Thus, the construction associated with implementation of the CAAP would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many of the CAAP actions would have the secondary benefit of reducing criteria pollutant emissions, such as measures that would increase building energy efficiency, promote EVs, reduce on-road and off-road fuel use, and reduce VMT. Implementation of the CAAP would be beneficial by helping Pinole meet applicable air quality plan goals. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to criteria pollutant emissions.

- c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations. Implementation of the CAAP measures, as described under *Response 3b*, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of CAAP measures and actions would not include large-scale construction, and construction-related

emissions would be temporary. As such, implementation of the CAAP could result in low-level toxic air contaminant emissions associated with construction.

While the CAAP could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAAP projects or actions would be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations through the standard development review process once project details and locations are known to confirm compliance. Thus, construction associated with implementation of the CAAP are not expected to result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAAP measures and actions. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have a **less-than-significant impact** related to exposure of sensitive receptors to toxic air contaminants.

d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.³⁸ The CEQA GHG Emissions Thresholds would provide guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to odors. The CAAP includes Measure SW-5 that seeks to establish new programs to meet the City's SB 1383 annual procurement target by increasing the application of compost on appropriate lands, such as natural areas and parks. As such, the CAAP could result in minor odors related to compost application. However, the location of future compost application would be selected to be complimentary to existing development in the City and would be reviewed for site specific potential odor impacts to ensure that projects implemented in accordance with the CAAP would not adversely affect a substantial number of people. Therefore, the CAAP would not facilitate development that could create adverse odors, and there would be **less-than-significant impacts** related to odors exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could result in air pollutant emissions that exceed applicable BAAQMD thresholds or be inconsistent with the 2017 Clean Air Plan. However, implementation of the CAAP and CEQA GHG Emissions Thresholds would have a less-than-significant contribution related to potential cumulative air quality impacts within the Air Basin and on sensitive receptors within Pinole, given that the CAAP and CEQA GHG Emissions Thresholds would result in community-wide reduction of GHG emissions, energy use, single-

³⁸ California Air Resources Control Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf> (accessed December 2023).

occupancy vehicle travel, and associated air pollutant emissions. As such, implementation of the CAAP and CEQA GHG Emissions Thresholds would not result in adverse impacts related to contribution of criteria pollutants to the Air Basin and exposure of sensitive receptors to toxic air contaminants and could result in co-benefits to air quality within the Air Basin for the reasons outlined in *Response 3a*, above. Therefore, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to air quality.

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Pinole is a primarily urbanized community with parks, recreational, and open spaces incorporated throughout the City. However, the ridgelines in Pinole and the San Pablo Bay area adjacent to the Pinole shoreline contain grasslands, saline emergent wetlands, coastal oak woodlands, coastal scrub, estuarine (tidal flats), open water, perennial creeks, and riparian forests which could provide habitat for special-status species.³⁹ In addition, migratory and nesting birds protected by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGF) and the Migratory Bird Treaty Act (MBTA) may utilize trees, landscaping, and structures throughout Pinole for nesting habitat. The General Plan Natural Resources and Open Space Element incorporates policies to protect biological resources, such as plants, trees, wildlife habitats, shoreline, and the species that utilize these habitats.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to special status species and their habitats. The CAAP would not involve land use or zoning changes and would instead promote sustainable infrastructure development and redevelopment. The CAAP measures would not conflict with the policies of the Pinole General Plan related to wildlife but would rather be consistent with and promote those policies. CAAP measures and actions would generally apply to the urbanized areas of the City, with little application to parks, open space areas, or the undeveloped portions of the City where sensitive habitat and related species may be present. In addition, CAAP Measure CS-1 facilitates the increase of carbon sequestration and preparation of the urban forest for climate change, extreme heat, drought, and wildfire by adopting policies developed through the Tree Master Plan. Likewise, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. Development of new or enhanced existing natural areas throughout Pinole could serve as additional habitat for special status species and migratory and nesting birds. As such, the CAAP would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification.

As a policy document, the CAAP would not directly result in impacts related to wildlife species of special status. However, implementation of some CAAP actions may promote infrastructure development within the urbanized portions of the City and could result in impacts to species through construction activities. CAAP Measures BE-2 and BE-3 would promote electrification of existing buildings; Measure TR-1 would improve bicycle and pedestrian facilities throughout the City; and Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. These actions have the potential to disturb nesting habitat for birds and raptors protected under Sections 3503, 3503.5, and 3513 of the CFGF and under the MBTA. However, construction activities for future CAAP projects would be required to comply with the provisions of the MBTA and CFGF Sections 3503, 3503.5, and 3513 to avoid impacts to protected

³⁹ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdns5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

birds and would be reviewed for consistency with City, State, and federal policies related to protected species. As such, the CAAP and CEQA GHG Emissions Thresholds would not have a substantial adverse effect on special-status wildlife species. Therefore, the CAAP would result in a **less-than-significant impact** related to special-status wildlife species.

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

As stated in *Response 4a*, Pinole contains wetlands and riparian habitat. Figure 1.1 in the City's General Plan details the habitat throughout Pinole, which includes the following breakdown of land types:⁴⁰

- Annual Grassland – 719 acres
- Saline Emergent Wetlands (e.g., Salt Marsh) 10 acres
- Coastal Oak Woodland – 499 acres
- Coastal Scrub – 10 acres
- Estuarine (e.g., Tidal Flats) – 58 acres
- Open Water – 4,097 acres
- Perennial Creek – 32 acres
- Riparian Forest – 41 acres
- Urban – 1,965 acres

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to riparian, wetland, or other sensitive habitats. The CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. The CAAP measures would generally apply to the urbanized areas of the City, with little application to parks, open space areas, or other locations where riparian and wetland habitat is located. Additionally, CAAP Measure CS-1 would facilitate the expansion of the urban forest within Pinole, while Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. The Pinole Municipal Code Chapter includes a variety of sections that establish policies, regulations, and standards to protect trees within the City, including the Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, as well as Policy SE.7.2, which aims to support the expansion of tree planting and landscape practices that encourage the use of trees, plants, and vegetation. Future CAAP-related projects would be required to adhere to City development regulations, Pinole General Plan policies, and the PMC. In addition, the location, and details of

⁴⁰ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

future CAAP projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAAP would not have a substantial adverse effect on riparian habitat or a sensitive natural community, such as wetlands. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have a **less-than-significant impact** related to sensitive natural plant communities.

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to interference with species movement or wildlife nurseries. The CAAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized portions of the City. As a policy document, the CAAP would not result in direct impacts related to interference with species movement or use of wildlife nursery sites. Future CAAP projects would be required to adhere to City development regulations, the Pinole General Plan, and the PMC, including Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. In addition, the Pinole General Plan contains several goals, policies, and actions such as those mentioned above under response to criteria a, b, and c. In addition, Measure CS-1 would facilitate the expansion of the urban forest within Pinole. Additionally, Measure EH-1 aims to reduce the impacts of extreme heat in Pinole by installing green/cool roofs and cool pavement, as well as planting vegetation and trees to reduce urban temperatures and the urban heat island effect. Furthermore, the CAAP actions would generally apply to the urbanized areas of Pinole with little application to parks, open spaces, or other locations where wildlife corridors or native wildlife nursery sites may be present. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to interference with species movement or wildlife nursery use.

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

As mentioned above, Pinole is a primarily urbanized community with parks, recreational, and open spaces incorporated throughout the City. The General Plan Natural Resources and Open Space Element incorporates policies to protect biological resources, such as plants, trees, wildlife habitats, shoreline, and the species that utilize these habitats. In addition, the PMC includes local policies and ordinances to protect trees. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The CAAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment within the urbanized portion of the City. The purpose and intended effect of the CAAP is to reduce GHG emissions generated in the City to help reduce the effects of climate change and increase the City's ability to adapt to the changing climate. Implementation of proposed CAAP actions would be beneficial by helping Pinole meet applicable local policies and ordinances for protecting biological resources, including the PMC Chapter 17, Article 96, Tree Removal and Chapter 12, Article 16, Street Trees, Shrubs, and Plants. Specifically, CAAP Measure CS-1 provides for the planting of new and maintenance of existing trees. As such, the CAAP would not conflict with or

obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to consistency with local biological resources protection policies.

- f. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

No portion of Pinole is currently subject to a Habitat Conservation Plan or Natural Community Conservation Plan.⁴¹ Therefore, the CAAP and CEQA GHG Emissions Thresholds would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could result in impacts to biological resources during infrastructure and building construction. However, as described in *Responses 4a* through *4f*, above, infrastructure development or redevelopment resulting from implementation of the CAAP would be required to comply with applicable Pinole General Plan policies and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAAP would not result in new building construction and contains actions that prioritize the preservation of trees and improvements to existing habitat. Therefore, implementation of the CAAP would result in a **less-than-significant cumulative impact** related to biological resources.

⁴¹ California Department of Fish and Wildlife (CDFW). 2019. Natural Community Conservation Plans. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline> (accessed January 2024).

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The Pinole General Plan Community Character Element notes that Pinole has a variety of cultural and historic resources, including Native American sites, historic period sites and buildings, artifacts, and memorabilia, associated with locally historic events. While only a few sites and buildings in the City meet the criteria for designation as a State Historic Resource or a State Historic Landmark, many others have historic value to the community. These structures include the Bank of Pinole, Bernardo Fernandez House, the Downer Home, and Pinole Waterfront at the base of Tennent Avenue. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to historical resources. The CAAP would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. CAAP projects would be required to comply with Pinole General Plan Community Character and Land Use and Economic Development Element goals and policies related to the preservation of historic resources, including Goal CC.1 which aims to maintain Pinole's unique qualities and sense of place to preserve the established historic and small-town character of the City as well as Goal LU.3, which aims to preserve historic resources and ensure high-quality site planning and design. CAAP projects would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the Pinole General Plan Community Character and Land Use and Economic Development Elements to avoid adverse impacts related to historic resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to historical resources.

- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to archaeological resources. There is a possibility for archaeological sites not previously recorded to be present in areas where CAAP projects could occur. CAAP Measures BE-5, TR-1, TR-4, TR-5, EH-1, and CIO-2 would result in small-scale construction that may expose previously undiscovered archaeological resources during ground disturbing activities. The CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAAP projects and actions would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction. As such, archeological resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to archaeological resources.

- c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have impacts related to human remains. There is a possibility of encountering unknown buried human remains throughout the City where future CAAP projects could occur. CAAP Measures BE-5, TR-1, TR-4, TR-5, EH-1, and CIO-2 would result in small-scale construction that may expose unknown human burial sites during ground disturbing activities. CAAP projects and actions would be required to comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 regulations related to burial findings, including notification, assessment, and treatment of burial sites. Therefore, the CAAP would result in a ***less-than-significant impact*** related to human remains.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would include infrastructure that could have an impact on cultural resources during construction. Additionally, there is a possibility of encountering buried archaeological deposits and human remains throughout the City. Impacts to historic and archaeological resources and human remains are generally site-specific. Accordingly, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. In addition, future projects in the City, including those associated with implementation of the CAAP, would be required to comply with the City's policies and programs that require the identification and protection of sites and structures of architectural, historical, archaeological, and cultural significance in order to avoid impacts related to cultural resources. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to cultural resources.

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate.⁴² California consumed 287,826 gigawatt-hours (GWh) of electricity in 2022 and 11,710 million therms of natural gas in 2022.^{43,44} The single largest end-use sector for energy consumption in California is transportation (41.2 percent), followed by industrial (23.6 percent), residential (18.2 percent) and commercial (17.1 percent).⁴⁵ The City of Pinole has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the **Error! Reference source not found.** section above. The City completed a communitywide GHG emissions inventory for 2017, which is summarized in **Error! Reference source not found.** Transportation (specifically passenger on-road and commercial on-road) and building energy use (specifically residential and commercial/industrial natural gas use) were responsible for the most GHG emissions within Pinole in 2017. Residential, non-residential, and other electricity use in Pinole totaled 83,718,338 kWh in 2017. Residential and non-residential natural gas use in Pinole totaled 3,670,203 therms in 2017.⁴⁶ Passenger and commercial vehicles in Pinole accounted for 59,505,776 VMT in 2017. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to wasteful consumption of energy resources. The CAAP is a policy

⁴² United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

⁴³ California Energy Commission (CEC). 2023. Electricity Consumption by County. <http://www.ecdms.energy.ca.gov/elecbycounty.aspx> (accessed December 2023).

⁴⁴ California Energy Commission (CEC). 2023. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx> (accessed December 2023).

⁴⁵ United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

⁴⁶ Pinole, City of. 2024. Draft Climate Action Plan Appendix C.

document containing climate action measures to reduce communitywide GHG emissions. The CAAP would encourage energy efficiency in the City's existing building stock through new policies and educational campaigns as well as new requirements for proposed new and existing buildings through CAAP Measures BE-1, BE-2, and BE-3. The CAAP would also promote increased renewable energy production within the City through Measure BE-5. Additionally, the CAAP attempts to reduce transportation-related energy consumption by increasing active transportation and public transit use and reducing VMT through Measures TR-1, TR-2, and TR-3.

Implementation of some CAAP measures would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of CCR Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as the 2022 CALGreen, future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAAP-related projects. Upon completion of construction for any CAAP-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT and energy use within the City.

The purpose and intended effect of the CAAP is to reduce GHG emissions generated within Pinole to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAAP would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to the wasteful, inefficient, or unnecessary consumption of energy.

b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include SB 1020, the 2022 CALGreen (Title 24 Part 11), and the 2022 California Building Energy Efficiency Standards (Title 24 Part 6). SB 1020 supports the reduction of GHG emissions from the electricity sector by accelerating the State's RPS Program and requires electricity providers to increase procurement from eligible renewable energy resources to 90 percent of total retail sales by 2035, 95 percent by 2040, and 100 percent by 2045. CALGreen (Title 24 Part 11) institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, the California Building Energy Efficiency Standards (Title 24 Part 6) establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. CCR Title 24 (Parts 6 and 11) is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Pinole is part of the Marin Clean Energy (MCE) community choice aggregate, which provides electricity primarily from clean, renewable sources. Pinole would continue to reduce its use of

nonrenewable energy resources as the electricity generated by renewable resources provided by MCE continues to increase to comply with State requirements through SB 1020. The CAAP includes measures and actions to reduce electricity use and increase production of renewable energy, as discussed further below, and would, therefore, align with the overall intent of SB 1020.

In addition, construction and operation associated with infrastructure projects stemming from the CAAP would be designed to comply with the energy source standards of the CALGreen and the California Building Energy Efficiency Standards. Future CAAP projects would be required to demonstrate compliance with the CALGreen and the California Building Energy Efficiency by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans.

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in conflicts with renewable energy plans. As discussed under *Response 6a*, above, Measures BE-1, BE-2, and BE-3 seek to decrease natural gas and energy consumption in new and existing buildings by requiring electrification, while Measure BE-5 encourages the production and use of local renewable energy. These actions are consistent with the goals and policies established by SB 1020, CALGreen, and the California Building Energy Efficiency Standards. Thus, the CAAP and CEQA GHG Emissions Thresholds would not conflict with adopted renewable energy or energy conservation plans and there would be ***no impact***.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of the CAAP would result in reduced use of non-renewable energy resources across the community, in particular, with requirements for retrofitted and new buildings and new infrastructure. Implementation of the CAAP would also increase the production of renewable energy within the City by incentivizing the inclusion of small-scale solar projects in new or majorly renovated multi-family and commercial developments and on existing municipal facilities. Additionally, the CAAP includes measures to increase the use of active transportation (TR-1) and public transit (TR-2) and reduce VMT within the City, which would reduce transportation fuel use. As the City's population grows and development intensifies in the future, actions contained within the CAAP would ensure that planned new development is constructed to strict energy efficiency standards and that VMT is reduced. As the CAAP would result in decreased non-renewable energy use within the City and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAAP would result in ***no cumulative impact*** related to energy.

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
Strong seismic ground shaking?	☐	☐	☐	☒
Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

- a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
 - ii. *Strong seismic ground shaking?*
 - iii. *Seismic-related ground failure, including liquefaction?*
 - iv. *Landslides?*

As outlined in the General Plan, Pinole is located approximately 1.5–3.9 miles northeast of the Hayward fault and the Rodgers Creek/Healdsburg fault zone underneath San Pablo Bay and is also located about 18 to 20 miles northeast of the San Andreas fault zone. The Green Valley-Concord fault trend is located approximately 12 miles east of Pinole. Given its proximity to Pinole, the Hayward fault poses the greatest seismic threat to the City. Ground movement, soil liquefaction, and landslides in susceptible areas can be expected to result in damage during a seismic event. The City's 1995 General Plan identifies the primary geologic and geotechnical concerns in Pinole as slope stability, earthquake ground shaking, and fault ground rupture. Although Pinole is at risk of earthquake-induced ground shaking and associated hazards, the CAAP is a policy document containing measures and supporting actions to reduce GHG emissions. The CAAP does not propose habitable development or policies that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Likewise, the CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to seismic- and landslide-related hazards.

- b. *Would the project result in substantial soil erosion or the loss of topsoil?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to substantial loss of topsoil. The CAAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment. As a policy document, the CAAP would not directly require ground-disturbing activities. However, implementation of several CAAP measures, such as CAAP Measures BE-5, TR-1, TR-2, TR-4, TR-5, CIO-2, EH-1, and CS-1 may result in small-scale construction activities that could cause soil erosion or the loss of topsoil during construction.

CAAP projects and actions would be reviewed for consistency with Pinole General Plan and PMC and other local and State erosion and grading regulations prior to final siting and construction. The potential for CAAP project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized through compliance with PMC Chapter 15, Article 36, which includes erosion and sediment control standards, and/or the National Pollutant Discharge Elimination System (NPDES) Construction General Permit provided by the Regional Water Quality Control Board. These regulations require

best management practices (BMPs) such as the covering of graded slopes and stockpiled materials, storm drain protection, and use of fiber rolls and silt fences to reduce erosion and topsoil loss from stormwater runoff. Compliance with these regulations would ensure that BMPs are implemented during construction and that soil erosion and the loss of topsoil are minimized. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to soil erosion and loss of topsoil.

- c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*
- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Figure 9.1 in the Health and Safety Element of the General Plan shows the liquefaction susceptibility, which includes a very high, moderate, and low ranking. The figure also shows landslide distributions in the City. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project location on an unstable geologic unit or soil. The CAAP is a policy document containing programs that are consistent with the Pinole General Plan. Some of the proposed policies in the CAAP would support small-scale construction projects, such as EV charging stations. However, CAAP projects and actions would be reviewed for consistency with local and state geotechnical regulations prior to final siting and construction. New structures would be required to comply with the CBC, including measures to address unstable soil conditions. Therefore, the CAAP would result in a **less-than-significant impact** related to risks associated with location on unstable geologic unit or soil or on expansive soils.

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAAP and CEQA GHG Emissions Thresholds would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to paleontological resources. The CAAP would not involve land use or zoning changes that would encourage new development but would instead promote sustainable development and redevelopment. As a policy document, the CAAP would not directly result in impacts related to paleontological resources or unique geologic features. CAAP policies that would involve construction activities, such as the policies related to building energy-efficiency, renewable energy production, and EV charging infrastructure, would involve work within existing, previously graded, and disturbed areas where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. Nonetheless, there is a possibility that these small-scale construction projects may expose

paleontological resources during ground disturbing activities. To reduce such risks, CAAP projects and actions would be reviewed for consistency with geotechnical and paleontological regulations prior to final siting and construction. In addition, the CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to paleontological resources and unique geologic features.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, could expose additional people and property to the seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAAP, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including CBC requirements, City-issued permit requirements, and the General Plan, would minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards and paleontological resources impacts would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to geology and soils.

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	☐	☐	☐	☒

- a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the sun hits Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth because it warms the planet by approximately 60 degrees Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth's temperature. Global warming is the observed increase in the average temperature of the Earth's surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorinated compound, and sulfur hexafluoride.⁴⁷ Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent

⁴⁷ The CAAP only considers emissions of CO₂, CH₄, and N₂O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the CAP.

forest fires, and more frequent and severe drought years.⁴⁸ Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:⁴⁹

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.

Pinole has completed a communitywide GHG emissions inventory for 2017, which is summarized in **Error! Reference source not found..** The combined energy sector (natural gas and electricity) was the second largest contributor to Pinole's GHG emissions, following the transportation (on- and off-road) sector. Figure 4 summarizes the communitywide GHG emissions forecast under three scenarios: 1) BAU, 2) BAU projections with state measures, and 3) the City of Pinole target reduction path along with State measures. Pinole is committed to an emissions reduction target of 40 percent below 1990 levels by 2030 (SB 32 target year) and reaching carbon neutrality by 2045 (AB 1279 target year). This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and CEQA Guidelines § 15183.5 for a qualified GHG emissions reduction strategy as well as to be achievable by City-supported measures identified in the CAAP. The CAAP includes a BAU and adjusted forecast of GHG emissions that will enable the City to estimate the amount of emissions reductions needed to meet its goal. The measures included in the CAAP combined with statewide legislation and initiatives and regional transportation programs will enable the City to meet its emissions reduction by 2030 (SB 32 target year). Table 4 shows the contribution of the statewide initiatives along with the measures and actions. The City needs to achieve a target of 47,389 MT CO₂e of GHG emissions by 2030 to meet its goal. The estimated GHG reductions accounted for in the CAAP would total 21,628 MT CO₂e by 2030, which would bring the total emissions to 47,273 MT CO₂e.

The CAAP includes measures intended to reduce communitywide GHG emissions. Implementation of the CAAP would result in the reduction of communitywide and per capita operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as EV charging stations and building energy and water efficiency upgrades. Additionally, the CAAP would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in construction or operational impacts related to GHG emissions. The CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAAP that are enforced during CEQA review with the intention of

⁴⁸ CARB and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf> (accessed December 2023).

⁴⁹ California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. <http://www.climateassessment.ca.gov/state/> (accessed December 2023).

reducing GHG emissions associated with construction and operation of future projects and plans in Pinole. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to generation of GHG emissions.

- b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The CARB 2022 Climate Change Scoping Plan outlines a pathway to achieving the 2045 goal codified by AB 1279. The CAAP and CEQA GHG Emissions Thresholds are policy-level documents that establish measures and actions to reduce GHG emissions within Pinole to comply with State regulations. As discussed under *Response 8a* above, the CAAP includes measures that would reduce GHG emissions from forecasted BAU levels to approximately 0.89 MT of CO₂e per resident, 1.53 MT of CO₂e per employee, and 1.10 MT of CO₂e per service person by 2030. The purpose of the CAAP is to meet Pinole's proportionate fair share of the statewide GHG emissions reduction target set by SB 32 and work toward the state's longer-term target of carbon neutrality identified by the 2022 Scoping Plan and codified by AB 1279.

The CAAP would not conflict with any applicable GHG reduction plans, including the CARB 2022 Climate Change Scoping Plan. The CAAP identifies how Pinole would achieve consistency with the statewide GHG emissions reduction goals. The CAAP would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability initiatives. These benefits include reduction in building energy consumption, VMT (and thus air pollution), and solid waste generation. Likewise, the CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the CAAP and would be enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***no impact*** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth and that exceed the proposed CEQA GHG Emissions Thresholds would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAAP creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for Pinole. The CAAP also includes a series of actions that are intended to reduce per capita GHG emissions by 40 percent below 1990 levels) by 2030, which provides substantial progress toward Pinole meeting State goals. The City's GHG targets were developed relative to the 2017 Community GHG emissions by back-casting to 1990. This back-cast utilized the change in statewide GHG emissions between 2017 and 1990 as a proxy for change in Pinole during the same period. As such, the CAAP would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during future construction of CAAP-related infrastructure projects; however, these emissions would be

temporary and minor in nature. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to GHG emissions.

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to hazardous materials. The CAAP is a policy document containing measures and actions to reduce GHG emissions. The CAAP does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the CAAP actions, such as energy and water efficiency retrofits and installation of EV charging stations, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control, the U.S. EPA, and the Occupational Safety & Health Administration. In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of projects would comply with all local, State, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the CCR. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAAP actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAAP actions would not involve the routine transport, use, or disposal of hazardous materials during operation.

CAAP Measure BE-5 emphasizes increasing local renewable energy production and storage within the City by encouraging new and majorly renovated multi-family and commercial developments to include small-scale solar systems and battery storage in their design. Lithium-ion batteries, the typical battery technology used in battery storage systems, may pose a risk of upset and accidental release of hazardous chemicals contained within the batteries (e.g., in the event of a fire). Lithium-ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with renewable energy systems. Any future proposed renewable energy systems would, therefore, be carefully reviewed for appropriate locations, safety measures, and consistency with the Pinole General Plan, PMC, and applicable local, State, and federal regulations. Thus, establishment of such production and storage facilities would be subject to site specific review and approval by the Pinole Fire Department, Hazardous Materials Division, and Building Division and would be required to comply with all applicable safety standards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to handling hazardous materials in the vicinity of schools. The CAAP is a policy document containing measures to reduce GHG emissions. The CAAP does not include site-specific proposals and development. Implementing some CAAP actions may require future development or improvements, such as EV charging stations and building improvements related to energy efficiency. However, CAAP projects and actions would be reviewed to establish the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the Pinole General Plan, PMC, and applicable local, State, and federal regulations. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to handling of hazardous materials in proximity to schools.

- d. *Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project site location on a site included on a hazardous material site list. The CAAP is a policy document containing measures and supporting actions to reduce GHG emissions and increase community resilience. The CAAP does not include site-specific proposals and development, but CAAP measures could result in projects that could be located on listed hazardous materials sites. However, CAAP projects and actions would be reviewed for consistency with the Pinole General Plan, PMC, and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. Therefore, the CAAP would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

- e. *For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

There are no airports within the City of Pinole. The closest airports to Pinole are Oakland International Airport, which is 27 miles away, and San Francisco International Airport, which is 34 miles away. Buchanan Field is a local airport that does not currently support commercial airline service and is in Concord, approximately 15 miles east of Pinole. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to airport hazards. Furthermore, the CAAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related hazards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **no impact** related to risks associated with location proximate to a public airport.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The CAAP and CEQA GHG Emissions Thresholds are policy documents intended to reduce GHG emissions. The proposed CAAP and CEQA GHG Emissions Thresholds do not involve site-specific development, nor would they facilitate new development that would interfere with adopted emergency plans. Implementation of some CAAP measures may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City through the encroachment permit review and permitting process to confirm appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways and that emergency evacuation routes would not be substantially impacted. In addition, CAAP Measure BE-5 would expand renewable energy and battery storage of local community-scale renewable energy. Action CAR-3c also aims to establish a partnership between the City and Police and Fire Departments to collaboratively identify hazards, analyze risk, coordinate emergency response, and complete public outreach efforts, to develop a comprehensive and effective LHMP that enhances community resilience and minimizes the impact of potential disasters by 2028. This would improve the City's ability to respond to emergency events. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to impairment or interference with implementation of an emergency response or evacuation plan.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

According to the Pinole General Plan Health and Safety Element, wildfire poses a high risk to the Sbrante Ridge boundary of the City from Duncan Canyon south through the slopes above Pinole Valley Park.⁵⁰ The CAAP and CEQA GHG Emissions Thresholds do not propose specific development or new residential or commercial land uses that could be subject to wildland fire, nor would they result other physical changes to the environment that could increase the risk of a wildland fire. Furthermore, CAAP Measure WF-1 aims to enforce defensible space and home hardening standards to mitigate structure ignitions and protect the community from wildfires. In addition, the CAAP does not propose specific development or new residential or commercial land uses that could be exposed to wildland fire. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to risks associated with exposure to wildland fires.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Hazards and hazardous materials impacts are typically site-specific in nature. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to

⁵⁰ Pinole, City of. 2010. Pinole General Plan Health and Safety Element. 2010. https://cdnsnm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_General_Plan_12.2010-Chapter9.pdf (accessed December 2023)

cumulative hazards and hazardous materials impacts with adherence to applicable General Plan policies and federal, State, and local regulatory requirements. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to hazards and hazardous materials.

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☒
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
(iv) Impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water quality standards. The CAAP is a policy document containing actions intended to reduce GHG emissions within Pinole. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures TR-4, TR-5, and CIO-2 would expand EV charging stations and supporting infrastructure. CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. These actions may result in small scale construction activities in the future that could result in temporary water quality impacts due to soil erosion and ground disturbance, as further discussed under *Response 10c* in Section 7, *Geology and Soils*.

However, CAAP projects and actions would be reviewed for consistency with local and State regulations, including the NPDES permitting program that requires implementation of Stormwater Pollution Prevention Plans (SWPPPs), as applicable, and the PMC Chapter 15, Article 36, Section 240 that includes erosion and sediment control standards. Additionally, PMC Chapter 15, Article 36, Section 190 requires that an Erosion and Sediment Control Plan be prepared by a registered civil engineer, unless specific conditions, as outlined in the code, are met. These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the PMC and/or NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAAP's related infrastructure and retrofit projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **less-than-significant impacts** related to surface or groundwater water quality in Pinole.

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundwater supplies. The CAAP is a policy document containing measures intended to reduce GHG emissions and increase adaptive capacity. Additionally, water in the City comes from EBMUD, which utilizes surface water, and no groundwater is used (EBMUD 2024). Nonetheless, CAAP Measure W-1 seeks to decrease community water use by 10 percent from 2017 levels in 2030. Reduced water use within the City would aid in maintaining groundwater supplies. CAAP Measure CS-1 would facilitate the expansion of the urban forest and greenspaces and development of new and enhanced natural areas within Pinole. Increased greenspace and natural areas would increase pervious surfaces in Pinole for improved groundwater recharge. Implementation of other CAAP measures, such as improved EV charging infrastructure and building energy efficiency retrofits, would not substantially degrade groundwater quality or recharge or result in increased groundwater demand. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to impedance of sustainable groundwater management.

- c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- *Result in substantial erosion or siltation on- or off-site?*
 - *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
 - *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
 - *Impede or redirect flood flows?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to alterations in drainage patterns and impervious surfaces. Implementation of several CAAP measures may promote infrastructure development and small-scale construction activities within Pinole. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure TR-1 would improve bicycle and pedestrian facilities throughout the City, and Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure, CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. Implementation of these CAAP actions would primarily occur within previously developed areas and would not result in substantial alterations to Pinole's existing drainage patterns and amount of impervious surface. Construction of CAAP projects could result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by PMC Chapter 15, Article 36, which includes erosion and sediment control standards and/or NPDES Construction General Permit program. In addition, CAAP projects would be developed in accordance with the City's General Plan, which includes goals and policies for the protection and preservation of ridgelines, creek corridors, trees, open space areas, and the bayfront.⁵¹ Furthermore, CAAP Measure CS-1 would increase permeable surfaces in Pinole, which would improve drainage and water quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **no impact** related to the alteration of existing drainage patterns.

- d. *Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

According to the General Plan, Pinole is not located within designated seiche or landslide hazard zone.⁵² The Federal Emergency Management Agency (FEMA) National Flood Hazard Map has identified areas in Pinole that are subject to flooding, which are almost entirely located at the San Pablo Bay shoreline and along Pinole Creek- the two surface water features in the City. Therefore, areas of Pinole are at risk of flooding. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to flooding and the risk of the release of pollutants. As described under *Response 10c*, CAAP projects

⁵¹ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

⁵² Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

would not impede or redirect flood flows, and as discussed under *Responses 9a and b* in Section 9, *Hazards and Hazardous Materials*, CAAP projects would generally not involve the regular use or storage of hazardous materials with the exception of renewable energy systems that include the storage of lithium-ion batteries. Future CAAP projects, such as renewable energy systems, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use and storage, including CBC standards for construction. Furthermore, any projects associated with implementation of the CAAP located in flood-prone areas must comply with HMC Chapter 15, Article 5, which provides requirements to mitigate potential flood risks, including general construction standards. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to flooding and inundation resulting in release of pollutants.

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to obstruction of a water quality control plan or sustainable groundwater management plan. The CAAP measures would not include activities that would result in the extraction of groundwater. Rather, the CAAP encourages reduced water consumption and expanded pervious surfaces within Pinole, which would aid in groundwater conservation and recharge and reduced surface water runoff and related water quality issues. The CAAP would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with a water quality control plan or sustainable groundwater management plan.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hydrology and water quality. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies and local, State, and federal regulatory requirements. Implementation of the CAAP would not contribute to an increase in growth and development in Pinole but could result in small-scale infrastructure development and building retrofit projects, including new EV charging infrastructure and energy and water efficiency upgrades. As such, implementation of the CAAP and other cumulative projects could have incremental impacts related to hydrology and water quality, such as erosion and sedimentation due to construction activities. However, the CAAP's contribution to such impacts would be minor and temporary, and the CAAP would have the long-term effect of reducing water use and improving sustainable stormwater management. Therefore, implementation of the CAAP would result in a ***less-than-significant cumulative impact*** related to hydrology and water quality.

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a. Would the project physically divide an established community?

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to division of an established community. The CAAP is a policy document containing measures that are consistent with the Pinole General Plan and does not include actions or specific development projects that would divide an established community. CAAP Measures TR-1, TR-2, and TR-3 facilitate the installation of active transportation infrastructure and amenities, improved public transit connectivity, and enhanced safety for pedestrians and bicyclists. Such actions would help to increase connectivity within Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to division of an established community.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in a construction or operational conflict with land use plans and policies. Rather, the CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the CAAP that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City.

The CAAP is a policy document containing measures that are consistent with Pinole's General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the CAAP could require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, CAAP Measures BE-1, BE-2, and BE-3 would establish new building ordinances or updates to the existing municipal code to require building electrification in residential developments and decarbonization of commercial developments. To implement these measures, the PMC, Pinole General Plan, and other applicable City documents may need to be amended to reflect new or

modified requirements. However, where modifications of existing policies are needed, the CAAP measures would result in greater avoidance or reduction of environmental effects. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with current land use plans or policies.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). The CAAP and CEQA GHG Emissions Thresholds are policy documents containing measures that are consistent with the Pinole General Plan. Nonetheless, implementation of the CAAP and CEQA GHG Emissions Thresholds, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would require some modification of existing land use policies, including amending the General Plan and developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes in the CAAP are consistent with the intent of the goals and policies established within the General Plan and PMC and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the CAAP, would be required to adhere to City development regulations and General Plan policies to retain land use character and minimize environmental impacts. Future CAAP projects and actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Therefore, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to land use.

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

No mineral resources are identified in the City of Pinole General Plan.⁵³ Likewise, the CAAP and CEQA GHG Emissions Thresholds would not facilitate additional urban growth or infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to mineral resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Therefore, CAAP-related projects and the CEQA GHG Emissions Thresholds, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative impacts to mineral resources. Thus, implementation of the CAAP and CEQA GHG Emissions Thresholds would result in **no cumulative impact** related to mineral resources.

⁵³ Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

- a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance, while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The Health and Safety Element of the Pinole General Plan aims to identify the major sources of noise in the City and ensure that comfortable and safe noise levels are retained throughout the community. Noise in Pinole is primarily generated by vehicular and rail. Noise generated by vehicular traffic in Pinole is greatest along I 80 and San Pablo Avenue. Two rail lines traverse the City, Burlington Northern Santa Fe, and the Union Pacific. There are no significant sources of aircraft or industrial noise in the City of Pinole. The ambient noise environment in Pinole is defined primarily by traffic on I 80, which runs northeast to southwest through the City. As stated in the General Plan, at locations removed from I 80 and the railroads, the ambient noise environment tends to be defined by local traffic and typical neighborhood noise sources. No significant noise-producing commercial or industrial activities are identified in the City of Pinole. From a land use planning perspective, there are two goals for controlling fixed-source noise: to prevent the introduction of new noise-producing uses in noise-sensitive areas and to prevent encroachment of noise-sensitive uses upon existing noise-producing facilities. The first goal can be achieved by applying noise performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in proximity to noise-producing facilities include mitigation measures to ensure compliance with those noise performance standards.

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to excessive noise levels. The CAAP is a policy document containing programs that are consistent with the City's General Plan. Some of the CAAP measures would support small-scale construction projects that could result in temporary noise. CAAP Measures BE-2 and BE-3 promote electrification of existing buildings, Measure T-1 would improve bicycle and pedestrian facilities throughout the City, Measures T-4, T-5, and CIO-2 would expand EV charging stations and supporting infrastructure, and CAAP Measure W-1 would incentivize water efficiency retrofits to existing buildings and landscaped areas. However, CAAP projects would be reviewed for consistency with the General Plan and PMC, and construction activities would be required to comply with the provisions of the PMC Section 8.35.030. Therefore, the CAAP would not result in significant construction noise related impacts.

The CAAP does not include future projects that would result in substantial operational noise. Rather, the CAAP encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAAP Measures TR-4, TR-5, TR-6, CIO-2, and CIO-3 encourage adoption of EVs and electric off-road equipment, which are quieter than gas-powered alternatives. Additionally, Measures TR-1 and TR-2 aim to facilitate improvements to bicycle and public transit circulation to increase active transportation and transit ridership and decrease VMT. These measures would reduce VMT and traffic-related noise in Pinole. Therefore, the CAAP and CEQA GHG Emissions Thresholds would not generate excessive operational noise levels and would result in a ***less-than-significant impact*** related to noise exposure.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as

groundbourne noise.⁵⁴ Although groundbourne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern of vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.⁵⁵ Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table 6.⁵⁶

Table 6 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
VdB = vibration decibels	
Source: Federal Transit Administration 2018	

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundborne vibration. The CAAP is a policy document containing programs that are consistent with the City’s General Plan. Some of the CAAP actions would support small-scale construction projects, such as EV charging station construction and building energy and water efficiency retrofits that may result in a temporary, minor increase in groundborne vibration. However, CAAP projects would be reviewed for consistency with the General Plan and PMC, and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would be minimized. Furthermore, CAAP projects would not include operational sources of groundborne vibration. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a **less-than-significant impact** related to groundborne vibration.

- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

⁵⁴ California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf> (accessed December 2023).

⁵⁵ Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed December 2023).

⁵⁶ Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed December 2023).

There are no airports located within the City of Pinole. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to airport noise. Furthermore, the CAAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to airport noise. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to aviation-related noise exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. The CAAP is a policy document containing programs that are consistent with the General Plan, including the Health and Safety Element. Nonetheless, CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would support construction projects, such as EV charging station construction that may result in a temporary increase in groundborne vibration or noise levels. However, cumulative projects, including future CAAP projects, would be subject to review by the City for compliance with the General Plan and PMC and would be required to comply with applicable State and federal regulations governing construction noise and vibration. Additionally, the CAAP encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the CAAP would not generate permanent, excessive groundborne vibration or noise levels. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to noise.

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to substantial unplanned population growth or the displacement of existing people or housing. The CAAP does not include measures, policies, or programs that would result in new housing or jobs or that would displace existing residents or housing. In addition, the CAAP does not propose new infrastructure, such as roadways or utilities, which could indirectly lead to new population growth or development. Therefore, the CAAP would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to population and housing.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, are not anticipated to displace people or housing nor induce substantial unplanned population growth within Pinole. Specifically, the CAAP would not contribute to person or housing displacement in Pinole nor result in population growth beyond that already assumed and planned for in the General

Plan. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no cumulative impact** related to population and housing.

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire protection?*
- *Police protection?*
- *Schools?*
- *Parks?*
- *Other public facilities?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to public services. The CAAP is a policy document containing programs that are consistent with the City's General Plan. Implementation of the CAAP and its proposed measures and actions would not result in increases in population or new employment opportunities that could induce population growth, as further discussed in Section 14, *Population and Housing*. As such, the CAAP would not require the construction of new or physically altered governmental facilities to serve an additional population,

the construction of which could cause significant environmental impacts. CAAP Measure WF-1 would help enforce defensible space and home hardening standards to mitigate structure ignitions from wind blow embers, thereby reducing the burden on local public services related to such natural disasters. Furthermore, future CAAP-related projects would be reviewed for consistency with the General Plan and other applicable local and State regulations related to public services. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in ***no impact*** related to public services in terms of need for the construction of new or altered governmental facilities.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of future CAAP-related projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAAP would not result in substantial cumulative need to expand public services facilities. Rather, the CAAP includes measures to improve community resilience and reduce the potential impacts of climate change in the City, thereby reducing the burden on local public services related to climate change-induced disasters. Therefore, the CAAP would result in a ***no cumulative impact*** related to public services.

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

According to the General Plan, Pinole has approximately 358 acres of land that are occupied by thirteen parks, including one regional park, four community parks, and five neighborhood parks. The City also has six school sites with park areas totaling an additional 16.5 acres, as summarized in the Community Services and Facilities Element. Additionally, the Growth Management Element includes an action to establish 3.0 acres of neighborhood or regional parks, or 5.0 acres of dedicated open space per 1,000 residents. Multiple General Plan Elements include goals and actions aimed to protect open space and recreational resources, including the Land Use and Economic Development, Community Services and Facilities, and Natural Resources and Open Space Elements. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to parks or recreational facilities. The CAAP is a policy document containing programs that are consistent with the General Plan, including the recreation and open space policies established in the Land Use and Economic Development, Community Services and Facilities, and Natural Resources and Open Space Elements. CAAP MeasureTR-1 includes an action that aims to connect open spaces currently disconnected from active transportation routes. Additionally, Measure SLR-2 includes an action that aims to identify replacement opportunities or otherwise plan for how to replace recreational areas and accessways that will be lost due to inundation or damage associated with sea level rise. Furthermore, as described in Section 14, *Population and Housing*, the CAAP would not result in substantial population growth or direct land use changes. As such, implementation of the CAAP would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAAP and CEQA GHG Emissions Thresholds

would result in **no impact** related to the need for construction of new or altered recreational facilities.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of CAAP projects, in combination with other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAAP would not result in increased demand for parks or substantial cumulative physical deterioration of parks or other recreational facilities or result in the cumulative need to expand recreational facilities. In addition, the CAAP includes measures to increase greenspace, natural areas, and parks within the community, which aligns with the General Plan recreation goals. Therefore, implementation of the CAAP would result in **no cumulative impact** related to recreation.

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

- a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*
- b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The General Plan Circulation Element includes the following goals:

- **Goal CE.1:** Reduce vehicle miles traveled and encourage the use of public transit.
- **Goal CE.2:** Achieve a coordinated regional and local transportation system that minimizes traffic congestion and efficiently serves users.
- **Goal CE.3:** Provide timely input and effective means (as appropriate) of programming street and highway improvements to maintain the objective peak hour level of service without detrimentally impacting community character or commercial activity.
- **Goal CE.4:** Establish programs to support sidewalk, trail and street enhancements, where feasible.
- **Goal CE.5:** Provide adequate parking and loading facilities while encouraging alternative means of transportation.
- **Goal CE.6:** Reduce the amount of peak hour automobile congestion on city streets, as appropriate.
- **Goal CE.7:** Support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders.
- **Goal CE.8:** Provide a safe network of well-maintained pedestrian walkways throughout Pinole that encourages walking as a form of non-motorized transportation.

Additionally, the City is preparing an Active Transportation Plan ([ATP] Walk & Roll Pinole 2024) to establish a vision for improving walking and bicycling within Pinole for people of all ages and abilities. When complete, it is anticipated that the City's ATP will provide recommendations that seek to increase safety, accessibility, and comfort for pedestrians and bicyclists; enhance connectivity between existing transportation networks and key destinations; and help the City address regional goals to reduce VMT.⁵⁷

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts that would conflict with a program, plan, ordinance, or policy addressing the transportation circulation system. The CAAP is a policy document containing measures and policies that are consistent with the General Plan Circulation Element. CAAP Measure TR-1 aims to create a safe and connected active transportation network linked to Pinole Creek to increase active transportation mode share, and Measure T-2 would implement public and shared transit improvements and programs to achieve an increase public transit mode share. Additionally, CAAP Measure TR-3 aims to develop programs and policies to discourage driving single passenger vehicles and to support the active transportation and public transit mode share goals of Measures TR-1 and TR-2. These CAAP measures would advance active transportation and public transit within Pinole and decrease VMT and associated air pollutants and GHG emissions. These CAAP measures would be consistent with the General Plan Circulation Element goals related to improving multi-modal facilities, reducing VMT and single-occupancy vehicles, encouraging active transportation, and reducing vehicle congestion within Pinole.

Furthermore, the CAAP would seek to reduce VMT within the City, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to consistency with plans addressing the transportation circulation system and CEQA Guidelines section 15064.3, subdivision (b).

- c. *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*
- d. *Would the project result in inadequate emergency access?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to risk associated with transportation design, incompatible use, or emergency access. The CAAP is a policy document containing measures that are consistent with the General Plan and would not facilitate development beyond that allowed under the General Plan. Implementation of some CAAP measures may involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City through the encroachment permit process to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways. Coordination with the City would ensure that significant impacts to the circulation system design, including safety impacts and emergency access, would not occur. As such, construction of future CAAP-related projects would not create transportation design hazards or result in inadequate

⁵⁷ Pinole, City of. 2024. Walk & Roll Pinole 2024: A Plan for People of All Ages and Abilities. https://ghd.mysocialpinpoint.com/pinole_atp (Accessed February 2024)

emergency access. Furthermore, the CAAP would facilitate increased active transportation and public transit use and decreased VMT within Pinole, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth could result in increases in VMT or changes affecting traffic design safety and emergency access. However, the CAAP is a policy document containing programs that are consistent with the General Plan and other applicable transportation policies and does not propose new development that would increase VMT, result in design hazard, or affect emergency access. Rather, the CAAP measures and actions would promote alternative modes of transportation and reduction of VMT throughout Pinole, consistent with goals contained in the Circulation Element. Therefore, the CAAP would result in a ***less-than-significant cumulative impact*** related to transportation.

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?	☐	☐	☒	☐

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?*

On January 26, 2024, 14 Native American Heritage Commission (NAHC)-identified local Native American tribal representatives from 12 Native American Tribal groups were formally notified that the City initiated environmental review of the CAAP and CEQA GHG Emissions Thresholds and were invited to consult on the plan. On February 1, 2024, the NAHC provided an updated list with six

additional representatives for local Native American Tribal groups, and these additional representatives were formally notified of the project on February 1, 2024. The Native American Tribal groups that were notified for the plan include the following:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Chicken Ranch Rancheria of Me-Wuk Indians
- Guidiville Indian Rancheria
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- Nashville Enterprise Miwok-Maidu-Nishinam Tribe
- North Valley Yokuts Tribe
- The Ohlone Indian Tribe
- The Confederate Villages of Lisjan
- Tule River Indian Tribe
- Wilton Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

On January 30, 2024, a representative from the Confederate Villages of Lisjan responded requesting a consultation. On April 17, 2024, City staff met with representatives from the Confederate Villages of Lisjan to initiate the consultation. During the meeting, the proposed project was discussed. Additionally, the specific conditions, measures, or protocols that are being considered to address concerns of local tribes as part of the proposed project, and areas where Tribes can work with the City to implement the CAAP were discussed. No mitigation measures were requested, and no tribal cultural resources were identified that could be impacted by the plan. Therefore AB 52 compliance requirements have been met.

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to tribal cultural resources. The CAAP would not involve land use or zoning changes that would increase development within the City but would instead promote sustainable infrastructure development within the urbanized area of the City. As a policy document, the CAAP would also not directly entail ground disturbing activities; however, implementation of various CAAP actions related to existing building energy, active transportation facilities, EV charging infrastructure, and tree planting may include minor construction activities in the future.

Implementation of these CAAP actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, the CAAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAAP projects and actions would be reviewed for consistency with applicable local, regional, and state tribal cultural and archaeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the Community Character Element of the General Plan, which requires a cultural resources study to be complete for all applicable discretionary projects by a professional archaeologist or architectural historian that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology (Action CC.4.2.4). Additionally, Action CC.4.2.5 states that, "should any cultural resources such as structural features, unusual amounts of bone or shell, artifacts, or architectural remains be encountered

during development activities, work shall be suspended within 50 feet of the discovery and the City of Pinole Community Development Department shall be immediately notified...” As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to tribal cultural resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. CAAP projects, in combination with other cumulative projects that occur to accommodate Pinole’s anticipated population, employment, and housing growth, could increase the potential for adverse effects to unknown tribal cultural resources in Pinole. However, impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. CAAP projects and other cumulative projects would be required to comply with the actions outlined in the Community Conservation Element related to a cultural resource study be complete, and if unanticipated items be found, the City would be contacted immediately, and work would be halted within 50 feet of the discovery. Therefore, the CAP would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have direct construction or operational impacts related to utilities and service systems. The CAAP is a policy document aimed at reducing solid waste production and energy and water consumption, amongst other issues, and the related GHG emissions throughout Pinole and does not include site-specific infrastructure designs or project proposals. Implementing the CAAP would not

result in an increase in population or housing nor would it facilitate growth beyond that anticipated by the General Plan. As such, implementation of the CAAP would not create new demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities. However, projects resulting from implementation of the CAAP could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage and green stormwater infrastructure projects. Potential impacts related to these measures are discussed further below.

Water Supply Facilities/Infrastructure

The City of Pinole receives water from the East Bay Municipal Utility District (EBMUD). The EBMUD supplies water and provides wastewater treatment for a large part of Alameda and Contra Costa counties. According to the EBMUD Urban Water Management Plan (UWMP), the EBMUD water supply system collects, transmits, treats, and distributes water from its primary water source, the Mokelumne River, to its customers in the San Francisco East Bay Area.⁵⁸ The Mokelumne Aqueducts convey the Mokelumne River supply from Pardee Reservoir, located upstream of Camanche Dam, across the Sacramento-San Joaquin River Delta (Delta) to local storage and treatment facilities in the East Bay. After treatment, water is distributed to the incorporated cities and unincorporated communities in Alameda and Contra Costa counties that EBMUD serves. Based on the historical average, approximately 90 percent of the raw water entering EBMUD's system originates from the Mokelumne River watershed, and approximately 10 percent originates as runoff from the protected watershed lands in the East Bay Area.

CAAP Measure W-1 seeks to decrease community water use by adopting a Water Conservation and Water Shortage Contingency Program Ordinance to establish drought thresholds that trigger varying water use reduction strategies with a focus on domestic water use, health and sanitation, and fire protection. Additionally, implementation of this measure would include a variety of educational campaigns that focus on water conservation, removing non-functional or decorative turf, and water-wise landscaping and watering practices. Likewise, CAAP Measure W-2 aims to increase the community's use, supply, and access to recycled water. This would be achieved through completion of a feasibility study with EBMUD to identify opportunities for increase supply of recycled water in the City, pursuit of funding for recycled water infrastructure, and development of a Recycled Water Infrastructure Enhancement Plan that outlines the potential for system expansion, identifies opportunities, as applicable, to integrate recycled water sources into non-potable water networks for irrigation, and the promotion of educational campaigns that raise awareness on what recycled water is and how it is used. Additionally, CAAP Measure CS-1 aims to increase carbon sequestration and prepare the urban forest for climate change, extreme heat, drought, and wildfire, which includes an action to amend the municipal code to include street tree requirements for all zoning districts, increase shade tree requirements for new developments, and include increased permeable surface requirements for new development or substantial redevelopment, improving water infiltration and groundwater recharge. Furthermore, the CAAP would not result in new land uses, such as increased residential or commercial development, which would contribute to an increase in water use compared to existing conditions or that would require relocation or construction of new water infrastructure. Therefore, the CAAP and CEQA GHG Emissions Thresholds would have **no impact** related to the need for construction or expansion of water supply facilities and infrastructure.

⁵⁸ EBMUD. Urban Water Management Plan 2020. June 2021. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024).

Wastewater Treatment Facilities/Infrastructure

The City of Pinole has a sewer collection system serving most of the City of Pinole, however, some areas in the southwest portion of the City are served by West County Wastewater District. The City of Pinole owns and operates the Pinole-Hercules Water Pollution Control Plant that provides secondary treatment of domestic, commercial, and industrial wastewater, serving a population of about 40,000, with an average daily flow of 3.5 million gallons.⁵⁹ The wastewater collection system includes approximately 49 miles of City-owned gravity sanitary sewers, 565 manholes, two lift stations, less than a mile of pressure force mains, and about 5,340 laterals.⁶⁰

The CAAP would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount of wastewater treated at the Water Pollution Control Plant would not change compared to existing conditions with implementation of the CAAP. The CAAP would not require relocation or construction of new wastewater treatment infrastructure. However, CAAP Measure SW-4 aims to analyze the opportunities to enhance the City's Wastewater Treatment Plant to divert organic waste from the landfill and increase organics recovery. This analysis would include a feasibility study to identify local partners, analyze the potential volume of waste, and assess facility upgrades needed to complete a pilot project at the WWTP and would not include direct construction or expansion of wastewater treatment facilities. Therefore, **no impact** related to construction or expansion of wastewater treatment facilities and infrastructure would occur.

Stormwater Drainage Facilities/Infrastructure

The City maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, implementation of CAAP measures related to building electrification and energy and water efficiency upgrades, renewable energy production and storage, transportation, and urban trees may promote infrastructure development that would involve small-scale construction. Construction of projects implemented in accordance with the CAAP could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAAP projects would be required to comply with local, State, and federal requirements during construction that would control stormwater runoff, erosion, and potential impacts to the stormwater drainage system. In addition, CAAP Measure CS-1 would support the planting of urban trees and development of new greenspace and natural areas, which would increase permeable surfaces throughout the City, improving water infiltration and stormwater management. Therefore, **no impact** related to construction or expansion of stormwater drainage facilities and infrastructure would occur.

Electric Power Facilities/Infrastructure

Electric power service in the City is provided by MCE using transmission infrastructure operated and maintained by Pacific Gas & Electric (PG&E). CAAP Measures BE-1, BE-2, and BE-3 promote building electrification of new and existing buildings, energy efficiency retrofits of existing buildings, and energy efficient buildings for future development. CAAP Measure BE-5 aims to increase the use of

⁵⁹ Pinole, City of. 2018. Wastewater Treatment Plant.

https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant#:~:text=In%201972%20the%20plant%20was,flow%20of%203.5%20million%20gallons. (Accessed February 2024)

⁶⁰ Pinole, City of. 2018. Wastewater Collection. https://www.ci.pinole.ca.us/city_government/public_works/wastewater_collection (Accessed February 2024)

renewable energy in the City, while Measure BE-6 supports installation of small-scale renewable energy systems and battery storage to provide greener renewable electricity within the City. In addition, CAAP Measures TR-4 and TR-5 encourage new EV infrastructure throughout the City. These CAAP measures may slightly alter electricity demand within Pinole. However, the CAAP would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption and increase in renewable energy production. Therefore, the CAAP would result in a ***less-than-significant impact*** related to construction, expansion, or relocation of electric power facilities and infrastructure.

Natural Gas Power Facilities/Infrastructure

PG&E provides natural gas services to the City. The CAAP would not involve new land uses that require new or additional natural gas services that could require the construction of new or expanded natural gas facilities. CAAP Measures BE-1, BE-2, and BE-3 would encourage building electrification in new and existing buildings to reduce natural gas consumption within the City. Implementation of these measures could involve minor alterations to existing natural gas infrastructure as natural gas use is reduced. However, the CAAP would serve as a pathway to reduce GHG emissions, including emissions related to natural gas consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAAP would result in a ***less-than-significant impact*** related to construction, expansion, or relocation of natural gas facilities and infrastructure.

Telecommunications Facilities/Infrastructure

The City is served by existing telecommunications companies such as AT&T and Xfinity. The CAAP would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications infrastructure. Therefore, the CAAP would result in ***no impact*** related to the need for construction or expansion of telecommunication facilities and infrastructure.

- b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*
- c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Water supply is addressed in the EBMUD UWMP, which is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. According to the UWMP, EBMUD has analyzed four different hydrological conditions to determine the reliability of water supplies: normal water year, single dry year, second dry year, and third dry year. The UWMP indicates that water supplies under the average/normal year conditions will be sufficient to meet demand through 2040. In addition, the UWMP includes a Water Shortage Contingency Plan.⁶¹ The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water supplies or wastewater. The CAAP is a policy-level document that does not include site-specific

⁶¹ EBMUD. Water Shortage Contingency Plan 2020. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024)

infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or wastewater treatment. Rather the CAAP contains measures and actions to reduce water use, such as Measure W-1, which encourages a reduction of water consumption of 10 percent by 2030, that would reduce water demand and wastewater production. Thus, the CAAP would result in **no impact** related to water supply and wastewater treatment.

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

Republic Services provides solid waste services within the City. Municipal solid waste generated in Pinole is primarily disposed of at the Keller Canyon Landfill in Bay Point. The Keller Canyon Landfill has a maximum permitted throughput of 3,500 tons per day of solid waste per day and has a remaining capacity of 63,408,410 cubic yards.⁶²

The CAAP focuses on sustainable infrastructure development and does not include land use or other policy changes that would result in increased residential, commercial, or other development that would increase solid waste generation within the City. CAAP Measures SW-1, SW-2, and SW-3 seek to reduce the amount of waste produced within the City by reducing consumption and implementing sustainable waste programs. These CAAP measures align with federal, State, and local regulations aimed at reducing solid waste disposal and increasing organic waste diversion, such as SB 1383. Additionally, because the CAAP is a policy document that would not facilitate growth beyond that anticipated by the 2040 General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the CAAP would result in **no impact** related to solid waste.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Other cumulative projects that occur to accommodate Pinole's anticipated population, employment, and housing growth could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CAAP and related infrastructure projects would not contribute to increases in population or induce additional population growth that would require additional use of existing City utilities or service systems. Rather, implementation of the CAAP would result in reduced energy and water consumption and solid waste and wastewater production. Therefore, implementation of the CAAP would result in a **less-than-significant cumulative impact** related to utilities and service systems.

⁶² California Department of Resources Recovery and Recycling (CalRecycle). 2023. SWIS Facility/Site Activity Details: Keller Canyon Landfill. <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228> (accessed February 2024).

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

- a. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
- b. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to the California Department of Forestry and Fire Protection, the portion of the City that has the greatest fire risk is on the periphery of the eastern side and the fire hazard severity zones are located south of Pinole Valley Road in the open space area.^{63,64} Though there are areas in Pinole that are at risk of wildfires, the CAAP and CEQA GHG Emissions Thresholds are policy-level documents that do not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor do they grant entitlements for development that would have the potential to directly cause wildfire. The CAAP actions would generally apply to the urbanized areas of Pinole with little application to parks, open space areas, or other locations where wildland fire risk exists. Additionally, CAAP Measure WF-1 would help to reduce community vulnerability to wildfires by enforcing defensible space and home hardening standards to mitigate structure ignitions from wind blow embers. Specifically, Measure WF-1 includes actions to conduct a feasibility study and if recommended, amend the Pinole Building Code to require best-practice Ignition Resistant Construction methods for new construction and substantial redevelopment in the wildfire hazard zone. Measure WF-1 also includes an action to prepare, adopt, and fully implement a Vegetation Management Plan for high-fire risk areas. Thus, the CAAP and CEQA GHG Emissions Thresholds would result in **no impact** related to wildfire.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and housing forecasts identified in the CAAP, calculated using Pinole-specific values from Plan Bay Area 2040 for 2015 and applying local and regional growth expected between 2015-2050 from Plan Bay Area 2050 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. The CAAP does not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Rather, implementation of the CAAP measures would reduce and mitigate the effects of climate change, including wildfire. Therefore, the CAAP would result in **no cumulative impact** related to wildfire.

⁶³ California Department of Forestry and Fire Protection. 2023. State Responsibility Area Fire Hazard Severity Zones. https://osfm.fire.ca.gov/-/media/OSFM%20Website/What%20We%20Do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map-2022/fire-hazard-severity-zones-maps-2022-Files/fhsz_county_sra_11x17_2022_contracosta_2 (accessed January 2024).

⁶⁴ California Department of Forestry and Fire Protection. 2008. Very High Fire Hazard Severity Zones in LRA. <https://34c031f8-c9fd-4018-8c5a-4159cdf6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map/upload-4/pinole.pdf> (accessed February 2024).

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

- a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAAP and CEQA GHG Emissions Thresholds is to reduce GHG emissions from community operations while increasing community resilience to climate change through implementation of measures and actions related to energy use, water consumption, waste reduction, transportation, solid waste, carbon sequestration, community adaptation and resilience, flood control, sea level rise, extreme heat, wildfire, and municipal operations. The CAAP measures and actions are consistent with the General Plan and encourage residents, businesses, and the municipal facilities to reduce energy and water use, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAAP and CEQA GHG Emissions Thresholds would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of

the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural Resources*, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to biological and cultural resources.

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Implementation of the CAAP would result in a cumulatively beneficial reduction of GHG and air pollutant emissions across the City. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAAP would not result in significant cumulative impacts. Rather, implementation of the CAAP would be consistent with Pinole’s General Plan policies aimed at reducing GHGs emissions and air pollutants, reducing VMT, reducing energy and water supply demands on utilities, and decreasing solid waste generation. Therefore, the CAAP would result in an overall ***less-than-significant cumulative impact*** related to all CEQA topics addressed within this document.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, GHG emissions and climate change, hazards and hazardous materials, noise, transportation, and wildfire impacts. As detailed in the preceding sections, the CAAP and CEQA GHG Emissions Thresholds would not result, either directly or indirectly, in substantial adverse effects related to air quality, GHG emissions, hazards, noise, transportation, or wildfire. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAAP could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in substantial adverse effects. In addition, as discussed throughout this document, the CAAP would serve as a pathway to reduce operational GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy and water consumption, VMT and traffic noise, and solid waste generation, as well as improved air quality and resilience to the effects of climate change and natural disasters. Therefore, the CAAP and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to potential for adverse effects on human beings.

References

- Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG-MTC). 2021. Plan Bay Area 2050. <https://www.planbayarea.org/finalplan2050> (accessed November 2023).
- Bay Area Air Quality Management District (BAAQMD). 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).
- _____. 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status> (accessed December 2023).
- _____. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. <https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans> (accessed December 2023).
- California Air Resources Board (CARB). 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).
- _____. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023).
- _____. 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed December 2023).
- _____. 2017. California 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).
- _____. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf> (accessed December 2023).
- California Air Resources Board and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf> (accessed December 2023).
- California Air Resources Board (CARB). 2023. SB 375 Regional Plan Climate Targets. Available: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed November 2023).

- _____. 2017. California 2017 Climate Change Scoping Plan.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf
(accessed November 2023).
- _____. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality.
<https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> (accessed November 2023)
- California Department of Conservation. 2022. California Important Farmland Finder.
<https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed January 2024).
- _____. 2022. California Williamson Act Enrollment Finder.
<https://gis.conservation.ca.gov/portal/home/webmap/viewer.html?webmap=18f7488c0a9d4d299f5e9c33b312f312> (accessed December 2023).
- California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-203.
<https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/> (accessed January 2024).
- California Department of Fish and Wildlife (CDFW). 2019. Natural Community Conservation Plans.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline> (accessed January 2024).
- California Department of Forestry and Fire Protection. 2023. State Responsibility Area Fire Hazard Severity Zones.
https://osfm.fire.ca.gov/media/s1wfn gas/fhsz_county_sra_11x17_2022_alameda_2.pdf
(accessed January 2024).
- _____. 2008. Very High Fire Hazard Severity Zones in LRA.
https://osfm.fire.ca.gov/media/6638/fhszl_map1.pdf (accessed February 2024).
- California Department of Resources Recovery and Recycling (CalRecycle). 2023. SWIS Facility/Site Activity Details: Keller Canyon Landfill.
<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228> (accessed February 2024).
- California Department of Transportation (CalTrans). 2024. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways> Accessed February 2024
- _____. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf> (accessed December 2023).
- California Energy Commission (CEC). 2023. Electricity Consumption by County.
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx> (accessed December 2023).
- _____. 2023. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>
(accessed December 2023).
- _____. 2022. 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf (accessed January 2024).

- California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. <http://www.climateassessment.ca.gov/state/> (accessed December 2023).
- Contra Costa Transportation Authority. 2017 Countywide Comprehensive Transportation Plan, Volume 1. September 10, 2017. <https://ccta.net/wp-content/uploads/2021/07/2017-CTP-Vol-1.2017.10.05.pdf> (accessed January 2024)
- _____. West County Action Plan. March 2023. https://ccta.net/wp-content/uploads/2023/03/Draft-West-County-Action-Plan_03-13-23.pdf (accessed January 2024)
- _____. Countywide Transportation Plan and Action Plans. 2024. <https://ccta.net/planning/countywide-transportation-plan/> (accessed January 2024)
- Contra Costa County, California. Municipal Climate Action Plan. December 2008. <https://www.contracosta.ca.gov/DocumentCenter/View/2905/Municipal-Climate-Action-Plan-1208-Attachment-A?bidId=> (accessed January 2024)
- _____. Contra Costa County Climate Action Plan. December 15, 2015. <https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=> (accessed January 2024)
- _____. Envision Contra Costa 2040. <https://envisioncontracosta2040.org/overview/#cap> (accessed January 2024)
- East Bay Municipal Utility District (EBMUD). Urban Water Management Plan 2020. June 2021. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024).
- _____. Water Shortage Contingency Plan 2020. <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan> (accessed January 2024)
- _____. Water Quality. <https://www.ebmud.com/water/about-your-water/water-quality> (accessed June 2024)
- Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed December 2023).
- Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed December 2023).
- Marin Clean Energy (MCE). 2018. 2019 Integrated Resource Plan. https://www.mcecleanenergy.org/wp-content/uploads/2020/01/MCE-Integrated-Resource-Plan_2019.pdf (accessed January 2024)
- Pinole, City of. 2010. General Plan Update. October 20, 2010. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/2010%20General%20Plan%20with%202023-2031%20Housing%20Element%20Update.pdf (accessed January 2024).
- _____. 2023. Draft CEQA GHG Thresholds.

- _____. 2024. Draft Climate Action Plan Appendix C.
- _____. 2018. Design Review.
https://www.ci.pinole.ca.us/city_government/planning/design_review (accessed January 2024).
- _____. General Plan Housing Element 2023-2031. https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/Housing%20Element/2023-2031%20Housing%20Element%20-%20Certified.pdf (accessed January 2024)
- _____. Municipal Code. https://codelibrary.amlegal.com/codes/pinole/latest/pinole_ca/0-0-0-10163 (accessed January 2024).
- _____. 2024. Walk & Roll Pinole 2024: A Plan for People of All Ages and Abilities.
https://ghd.mysocialpinpoint.com/pinole_atp (Accessed February 2024)
- _____. Wastewater Treatment Plant.
https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant#:~:text=In%201972%20the%20plant%20was,flow%20of%203.5%20million%20gallons.
(Accessed February 2024)
- _____. Pinole, City of. 2018. Wastewater Collection.
https://www.ci.pinole.ca.us/city_government/public_works/wastewater_collection
(Accessed February 2024)
- Rincon Consultants, Inc. City of Pinole 2017 Community Inventory. Updated January 2024.
- United States Energy Information Administration (USEIA). 2023. California - Profile Overview. April 20, 2023. <https://www.eia.gov/state/?sid=CA> (accessed December 2023).

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Appendix A

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O ₃)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO _x) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO _x emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO ₂)	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM ₁₀)	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO _x , SO _x , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM ₁₀ . Conserve energy.
Fine particulate matter (PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO _x , SO _x , organics, and NH ₃).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO ₂ , (see SO ₂ sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO ₂

Climate Action and Adaptation Plan and CEQA GHG Emissions Thresholds

Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM _{2.5}	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM _{2.5}
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.
Source: Compiled by Rincon Consultants, Inc. in October 2023			

Appendix B

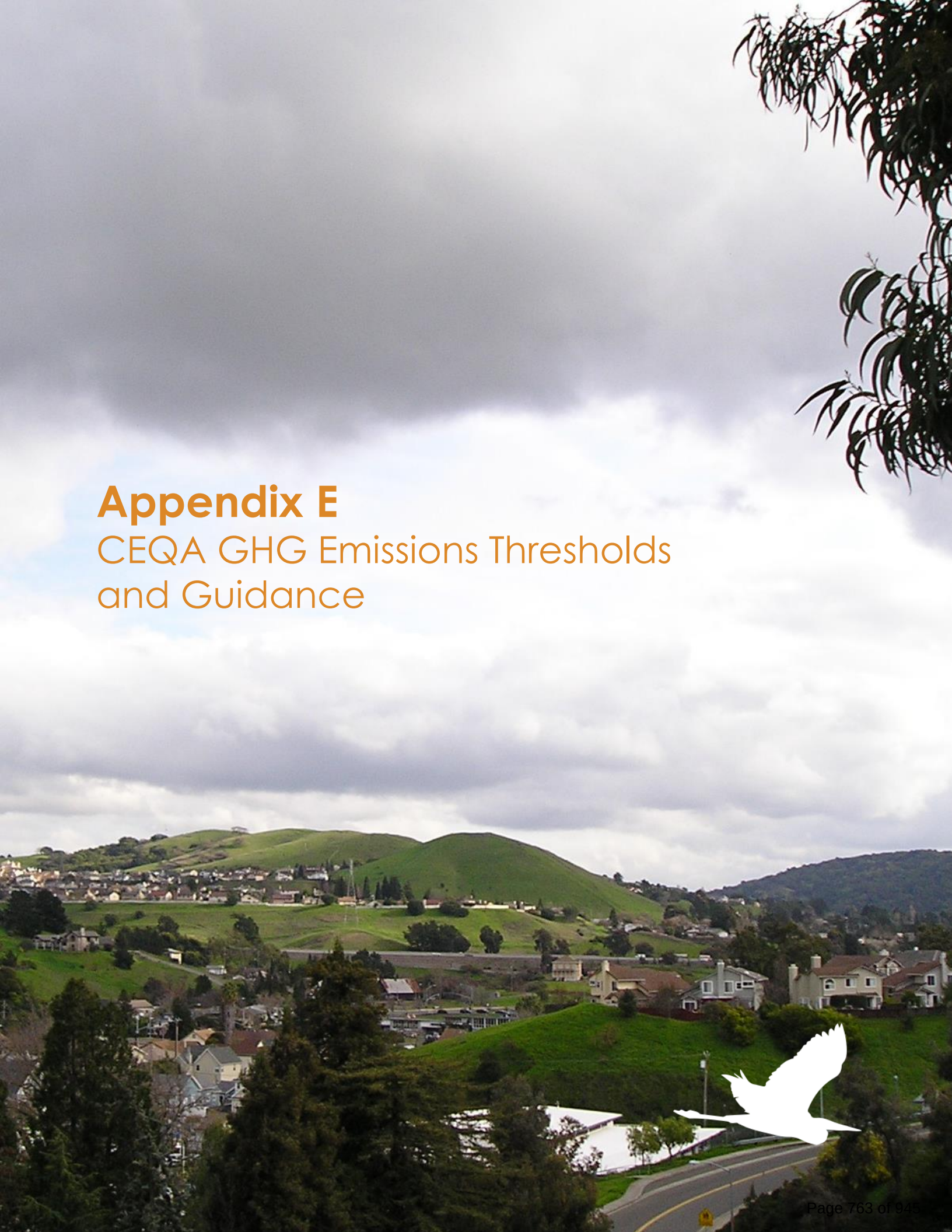
Description of Greenhouse Gases of California Concern

Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO ₂)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH ₄)	Flammable gas and is the main component of natural gas.	28	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N ₂ O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants; aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF ₆)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas
Nitrogen trifluoride (NF ₃)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in October 2023

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Appendix E

CEQA GHG Emissions Thresholds and Guidance



California Environmental Quality Act (CEQA) Greenhouse Gas (GHG) Emissions Thresholds and Guidance

Final

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Table of Contents

1	Introduction	1
1.1	GHG Emissions Analyses Under CEQA	1
1.2	Qualified GHG Emissions Reduction Plan	3
2	Climate Action and Adaptation Plan Summary	6
2.1	Communitywide GHG Emissions Inventories	6
2.2	GHG Emission Reduction Strategy	6
2.3	GHG Emissions Forecast.....	8
3	Regulatory and Legal Setting	11
3.1	Relevant CEQA Guidelines Sections	11
3.2	Relevant State and Regional GHG Reduction Targets	15
3.3	Relevant GHG Emissions Analysis Case Law	18
4	Determining Consistency with the CAAP	20
5	Utilizing Quantitative CEQA GHG Thresholds	23
5.1	Thresholds Calculation Methodology	23
5.2	Thresholds and Use.....	25
5.3	Justification for Thresholds	27
6	Quantifying GHG Emissions	30
6.1	Construction GHG Emissions	30
6.2	Operational GHG Emissions	31
6.3	Modeling GHG Emissions from Existing Land Use	33
7	Moving into the Future.....	35

Tables

Table 1	CAAP Consistency with CEQA Guidelines Section 15183.5(b)(1) for 2030	4
Table 2	Pinole 1990 and 2017 Communitywide GHG Emissions Levels	6
Table 3	Pinole GHG Emissions Reduction by 2030	7
Table 4	Pinole GHG Emissions Forecast Through 2045	9
Table 5	GHG Emissions Reductions for Year 2030 by Type of Development (MT of CO ₂ e)	25
Table 6	Pinole Demographic Projections.....	25
Table 7	Pinole Locally Applicable Plan/Project CEQA GHG Emissions Thresholds	26

Figures

Figure 1	Pinole 2030 and 2045 GHG Emissions Targets	2
Figure 2	Pinole Total GHG Emissions Forecast, 2017 to 2045	8
Figure 3	Determining Consistency with the Pinole CAAP	20
Figure 4	Allowable GHG Emissions from Existing and New Development in 2030	24

Figure 5 Pinole GHG Efficiency Thresholds 26

Appendices

Appendix A Overview of GHG Emissions and Climate Change
Appendix B CEQA GHG Threshold Calculations
Appendix C US Green Building Council Building Area per Employee by Business Type Rates

1 Introduction

1.1 GHG Emissions Analyses Under CEQA

The California Environmental Quality Act (CEQA) requires discretionary plans and projects to undergo an environmental review process, which includes an evaluation of plan- or project-related greenhouse gas (GHG) emissions.¹ Section 15183.5 of the CEQA Guidelines establishes a framework for developing a *qualified GHG reduction plan*² to cumulatively reduce GHG emissions and allow lead agencies to analyze and mitigate the effects of plan- and project-level GHG emissions. This GHG Thresholds and Guidance Document is intended to provide methodological guidance and quantitative thresholds of significance for use by City planners, applicants, consultants, agencies, and members of the public in the preparation of GHG emissions analyses under CEQA for plans and projects located within the City of Pinole.

The City of Pinole (City) is preparing a CEQA Guidelines Section 15183.5-consistent GHG reduction plan titled as a Climate Action and Adaptation plan (CAAP), with the goal of achieving a 40 percent reduction in GHG emissions compared to 1990 levels by 2030, and carbon neutrality by 2045.³ While the City Council, City staff, and community will continue to develop an approach to the longer-term goal of carbon neutrality, the CAAP includes specific actions to achieve the shorter-term communitywide emissions reduction target of 40 percent below 1990 level emissions (or 47,389 metric tons of carbon dioxide equivalents [MT of CO₂e]⁴) by 2030, which is consistent with California's goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 (per Senate Bill [SB] 32). The City has also adopted a goal to achieve carbon neutrality by 2045, consistent with Assembly Bill ([AB] 1279). Implementation of the Pinole CAAP actions would result in GHG emissions reduction in a manner that aligns with the State 2030 goal and makes substantial progress towards the 2045 goal of carbon neutrality. See Figure 1 for a representation and comparison of Pinole and State GHG emissions reduction targets.

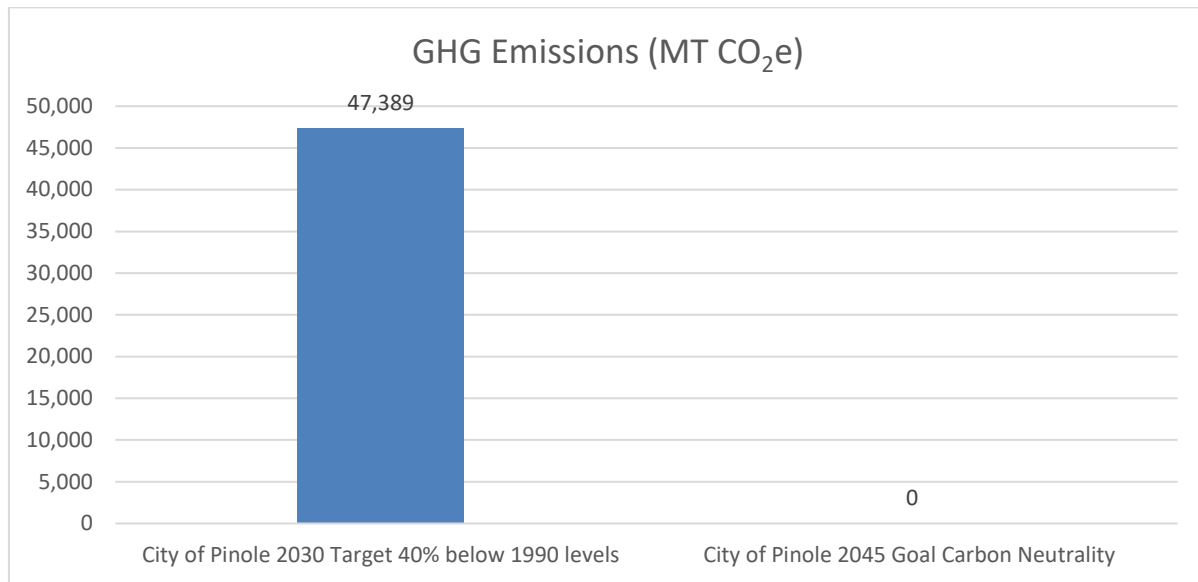
¹ Refer to Appendix A for an overview of GHG emissions and climate change.

² To be a qualified CAAP, a CAAP must meet the requirements of CEQA Guidelines Section 15183.5, as further discussed in Section 1.2.

³ Carbon neutrality is defined as net zero carbon emissions, which is achieved either by balancing carbon emissions with carbon removal or by completely eliminating carbon emissions.

⁴ Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas, CO₂, is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as carbon dioxide equivalent (CO₂e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than CO₂ on a molecule per molecule basis (Intergovernmental Panel on Climate Change Fifth Assessment Report).

Figure 1 Pinole 2030 and 2045 GHG Emissions Targets



The City’s 2030 target and the associated GHG emissions reduction measures and actions were developed to provide substantial progress towards the City’s longer-term carbon neutrality target (consistent with AB 1279) and achieve the State’s GHG reduction goal identified in SB 32. Consistent with this process, the Pinole CAAP includes procedures to track and evaluate Pinole’s progress in achieving the trajectory of the CAAP’s targets to assess the “substantial progress” toward achieving long-term reduction targets identified in the CAAP and State legislation. The CAAP also includes commitments and mechanisms to achieve further GHG emissions reduction necessary to avoid interference with, and make substantial progress toward, long-term City targets and State goals. This approach is important, because the City targets have been set at levels that achieve California’s fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences of climate change.

To support progress toward the City’s longer-term carbon neutrality goal, plans and projects within the City that undergo CEQA review will need to demonstrate consistency with targets in the CAAP, which is a Qualified GHG Emissions Reduction Plan (consistent with CEQA Guidelines Section 15183.5) upon adoption of the CEQA review document, specifically the CAAP Initial Study-Negative Declaration (IS-ND), and approval of the CAAP by City Council. Chapter 2, *Climate Action and Adaptation* Plan Summary, provides an overview of the CAAP and the associated GHG emissions inventories, reduction measures, and forecasts included therein. In addition, Chapter 3, *Regulatory and Legal Setting*, offers an overview of relevant regulations and case law pertaining to the analysis of GHG emissions consistent with CEQA and the CEQA Guidelines.

Plans and projects that are consistent with the CAAP demographic (i.e., residents and employees) projections and land use assumptions, which are based on the Association of Bay Area Governments (ABAG) Plan Bay Area 2040 and 2050 (PBA 2040 and 2050) projections, and in alignment with the City’s 2010 General Plan and updated 2023-2031 Housing Element, will be able to tier from the adopted CAAP IS-ND pursuant to CEQA Guidelines Section 15183.5. To streamline this CEQA GHG emissions analysis process, the City has prepared a CEQA GHG Emissions Analysis Compliance Checklist that can be utilized in plan- and project-level CEQA review documents to confirm that such proposed plans and projects are consistent with the CAAP GHG emissions reduction strategy.

Chapter 4, *Determining Consistency with the CAAP*, includes guidance on how to navigate this consistency determination process.

For plans or projects that are not consistent with the CAAP's demographic projections and land use assumptions, a different methodology and assessment utilizing quantitative thresholds of significance would be necessary to evaluate GHG emissions impacts. Chapter 5, *Utilizing Quantitative CEQA GHG Thresholds*, includes guidance on how to utilize the quantitative thresholds that were developed for purposes of evaluating the level of significance of GHG emissions impacts.⁵ Furthermore, Chapter 6, *Quantifying GHG Emissions*, provides direction regarding how to quantify a plan or project's GHG emissions for comparison to the applicable threshold of significance.

The CAAP acknowledges that additional actions beyond those identified in the plan will be required to achieve the long-term goal of carbon neutrality by 2045. As a result, the plan provides a mechanism for monitoring CAAP progress by providing City Council with an annual update on progress through annual communitywide GHG emission inventories and evaluating measure implementation progress against the CAAP's measure schedule. The City will also review and update the CAAP in five years (with opportunities to adjust as needed based on CAAP progress) in order to incorporate new measures and technologies that will further move the City toward meeting the longer-term carbon neutrality target. Chapter 7, *Moving into the Future*, offers further explanation of how CEQA review of plans and projects could be affected by future updates and/or iterations of the Pinole CAAP.

1.2 Qualified GHG Emissions Reduction Plan

According to CEQA Guidelines Section 15183.5, project-specific environmental documents can tier from, or incorporate by reference, the existing programmatic review in a qualified GHG emissions reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG emissions reduction strategy included in the qualified GHG emissions reduction plan. To meet the requirements of CEQA Guidelines Section 15183.5, a qualified GHG emissions reduction plan must include the following:

- A. Quantify existing and projected GHG emissions within the plan area;
- B. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- C. Identify and analyze sector specific GHG emissions within the plan's geographic area;
- D. Specify strategies or a group of strategies, including performance standards, that if implemented, would collectively achieve the specified emissions level;
- E. Establish a tool or mechanism to monitor progress and to require amendment if the plan is not achieving specified levels; and
- F. Be adopted in a public process following environmental review.

⁵ In compliance with CEQA Guidelines Section 15064.7(b), this guidance document and the quantitative thresholds contained herein will be presented to the City Council for formal adoption via resolution, which includes a public input opportunity.

Development projects can demonstrate consistency with a qualified GHG emissions reduction plan if they are consistent with the plan’s assumptions regarding future growth projections and consistent with the plan’s GHG emissions reduction measures.⁶ Projects consistent with the qualified GHG reduction plan, including conformance with performance measures applicable to the project, would not require additional GHG emissions analysis or mitigation under CEQA Guidelines Sections 15064(h) and 1513.5(b)(2). The City of Pinole has developed the CEQA GHG Emissions Analysis Compliance Checklist (Checklist) to assist with determining project consistency with the CAAP. The Checklist is intended to provide individual projects the opportunity to demonstrate that they are minimizing GHG emissions while ensuring new development achieves their proportion of emissions reduction consistent with the assumptions of the CAAP. Project consistency with a GHG emissions reduction plan can also be demonstrated through a quantitative analysis that demonstrates the project will not impede (or will facilitate) the City’s ability to meet the GHG emissions reduction targets.

Table 1 summarizes the consistency of the CAAP with these requirements for year 2030 (the next state milestone target year for GHG emissions reduction). As shown in Table 1, upon adoption of the IS-ND and approval of the plan by City Council, the Pinole CAAP will meet the requirements of a qualified GHG emission reduction plan per CEQA Guidelines Section 15183.5(b)(1) for projects with buildout years through 2030.

Table 1 CAAP Consistency with CEQA Guidelines Section 15183.5(b)(1) for 2030

CEQA Guidelines Section 15183.5(b)(1) Requirement¹	Climate Action and Adaptation Plan Consistency
Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.	Consistent. The CAAP includes a communitywide GHG emissions inventory for 2017 and forecasts GHG emissions for years 2030 and 2045, including all relevant sources within the community. The GHG emissions inventory was developed following Local Governments for Sustainability’s (ICLEI) U.S. Community Protocol (Community Protocol) version 1.2 ⁷ .
Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.	Consistent. The Association of Environmental Planners (AEP, 2016) Beyond Newhall and 2020 white paper identifies this threshold as being a local target that aligns with the State legislative targets. The CAAP establishes a long-term aspirational goal of carbon neutrality by 2045, and as discussed in Section 2, <i>GHG Emissions and Targets</i> , implementation of the plan will achieve a 40 percent reduction in total emissions compared to 1990 emissions levels by 2030, in line with State targets codified by SB 32.
Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.	Consistent. Following ICLEI’s Community Protocol, the CAAP breaks down the inventory and forecasts into sectors under the jurisdictional control of the City: passenger transportation, commercial transportation, off-road equipment, residential energy (electricity and natural gas), non-residential energy (electricity and natural gas), water, wastewater, and solid waste. No other significant sources exist within the city.
Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would	Consistent. The CAAP specifies measures and actions that the City will enact and implement between 2024 and 2030 to meet the 2030 GHG emissions target. As discussed in Section 2, <i>GHG Emissions and Targets</i> , implementation of the plan will achieve a 40 percent reduction in 1990 emissions levels by 2030, which demonstrates substantial progress by 2030 toward achieving the City’s longer-term goal of carbon neutrality by 2045. A key aspect of a

⁶ CAAPs typically utilize growth projections from the local jurisdiction’s General Plan or applicable Metropolitan Planning Organization’s regional demographic forecast.

⁷ ICLEI. 2019. *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions*. July 2019. <https://iclei.usa.org/us-community-protocol/>

CEQA Guidelines Section 15183.5(b)(1) Requirement ¹	Climate Action and Adaptation Plan Consistency
collectively achieve the specified emissions level.	qualified GHG emissions reduction plan is substantial evidence that clearly identifies that the approach and assumed GHG reduction is reasonable for the community
Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.	Consistent. Section 5, <i>Implementation and Monitoring</i> , includes a process to complete annual community GHG emissions inventories, with the first inventory to be completed for calendar year 2024, which will be the first full year after CAAP adoption. The inventories will allow the City to measure progress towards meeting the CAAP goals. The CAAP includes the commitment to update the CAAP if an inventory indicates that the City is not on track to meet the CAAP GHG emissions goals. The updates will include additional measures required at that time to increase emissions reductions and maintain the CAAP status as a CEQA qualified GHG emissions reduction plan.
Be adopted in a public process following environmental review.	Consistent. The City is preparing an IS-ND for the CAAP that will be circulated for public review and comment and adopted prior to approval of the CAAP and CEQA GHG Emissions Thresholds and Guidance by City Council.
Source: Compiled by Rincon in 2024.	

2 Climate Action and Adaptation Plan Summary

The following sections provide an overview of the Pinole CAAP, including the 2017 communitywide GHG emissions inventories, and the communitywide GHG emissions forecast for years 2030 and 2045, and the proposed GHG emission reduction strategy.

2.1 Communitywide GHG Emissions Inventories

The City has completed a communitywide GHG emissions inventory for year 2017, which is summarized in Table 2. Table 2 also provides estimated 1990 emissions levels for informational purposes.

Table 2 Pinole 1990 and 2017 Communitywide GHG Emissions Levels

Sector	1990 ¹ (MT of CO ₂ e)	2017 (MT of CO ₂ e)
On-Road Transportation	N/A	30,483
Off-road Transportation	N/A	5,236
Non-residential Energy	N/A	11,210
Residential Energy	N/A	21,878
Water & Wastewater	N/A	165
Solid Waste	N/A	3,300
Total	78,982	72,273

MT = metric tons; CO₂e = carbon dioxide equivalents

Note: Numbers are rounded to the nearest ten.

¹1990 GHG emissions were estimated by back-casting Pinole's total 2017 GHG emissions based on the change in the State's GHG emissions between 2017 and 1990, excluding sectors that are not within Pinole. It is assumed that the change in Pinole's GHG emissions from 2017 to 1990 is equal to the State's change in GHG emissions of the same time period. 1990 GHG emissions for Pinole were not estimated at the individual sector level.

Source: Pinole, City of. 2023. Pinole 2017 Community GHG Inventory.

2.2 GHG Emission Reduction Strategy

To achieve the City's long-term aspirational goal of carbon neutrality by 2045, the Pinole CAAP includes a series of measures and actions that are intended to reduce communitywide GHG emissions by just over 40 percent below 1990 levels by 2030 (equivalent to 47,273 metric tons of carbon dioxide equivalents [MT of CO₂e] in 2030). This provides substantial progress toward meeting the City's longer-term carbon neutrality goal while also aligning with the State's 2030 target. The CAAP acknowledges that additional actions beyond those identified in the plan will be necessary to achieve the long-term aspirational goal of carbon neutrality and therefore provides a mechanism for tracking performance over time, reporting annual progress to the City Council, conducting annual GHG emission inventory updates, and updating the CAAP in five years (with the ability to adjust as needed based on progress) in order to incorporate new measures and

technologies that will further the City towards meeting the long-term aspirational goal of carbon neutrality.

As part of the CAAP process, the City of Pinole has developed a set of measures reducing communitywide GHG emissions in all sectors to achieve the City's climate action targets. Each measure is supported by a set of actions that provide a measurable GHG emissions reduction that is supported by substantial evidence. Measures and actions are organized according to the following hierarchy:

- **Strategy** – Strategies describe an overall approach for reducing GHG emissions and building climate resilience.
 - **Measure** – Measures are long-range policies that the City has established to ultimately reduce emissions in line with the state and increase resilience to climate change.
 - **Action** – Actions are the discrete steps the City will take to achieve the established Measures. Over time, the Plan will be reviewed, and additional actions will need to be added to make greater progress on the established Measures, as appropriate. This CAAP serves as the City's first step in climate action planning and will be continuously refined.

Table 3 summarizes the GHG emissions reductions that are anticipated to be achieved by 2030 by the identified measures in the CAAP, in addition to State laws and programs. As shown therein, implementation of State laws and programs as well as the CAAP measures would reduce 2030 absolute communitywide emissions by approximately 40 percent below 1990 levels, to approximately 47,273 MT of CO₂e in 2030.

Table 3 Pinole GHG Emissions Reduction by 2030

Source	Annual Emissions Reductions (MT of CO ₂ e)
1990 Baseline Emissions ¹	78,982
Business-as-Usual 2030 Emissions ²	84,515
State Legislation/Existing City Programs	15,613
Energy CAAP Measures	10,484
Transportation CAAP Measures	7,743
Waste CAAP Measures	3,359
Total Emissions Reduction (from BAU)	37,198
Remaining 2030 Emissions	47,316
Percent Reduction below 1990 Levels	40.1%

Note: numbers in table may not add to the total exactly due to rounding.

MT = metric tons; CO₂e = carbon dioxide equivalents

¹ See Table 2.

² See Table 4.

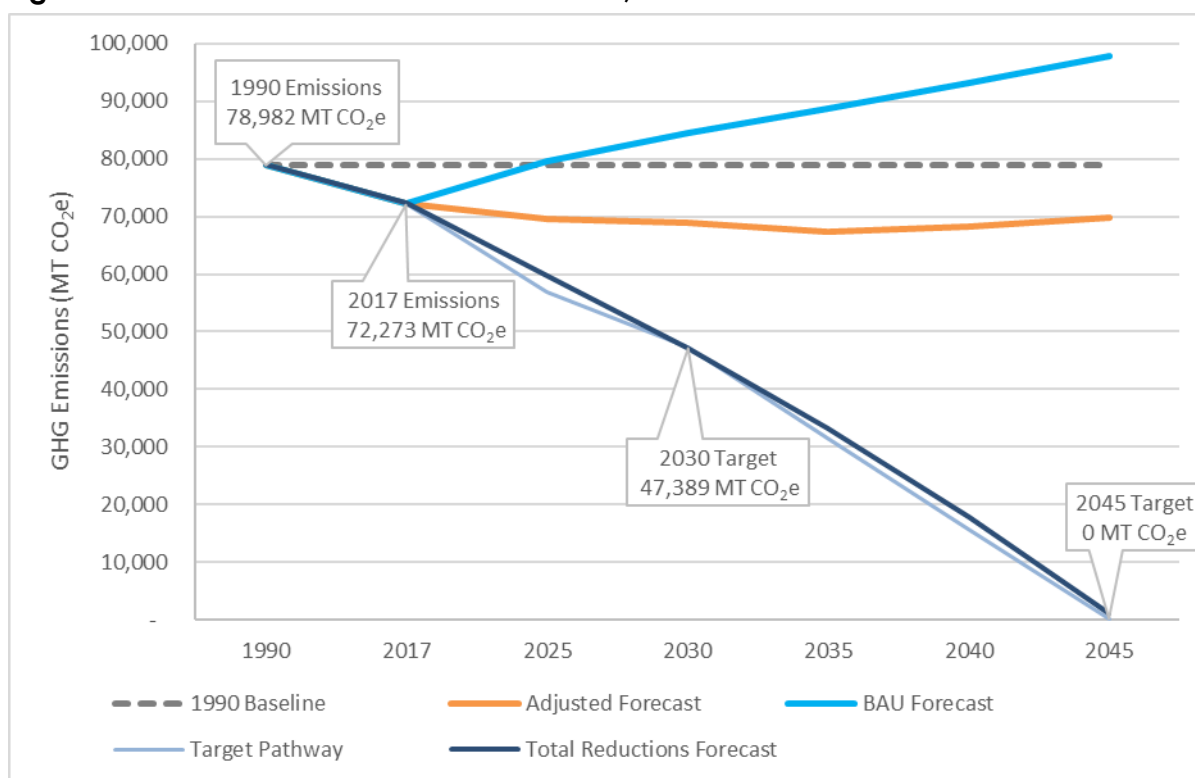
Source: City of Pinole *Draft Climate Action and Adaptation Plan* and *GHG Emissions Reduction Technical Evidence*

2.3 GHG Emissions Forecast

Figure 2 and Table 4 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual, 2) adjusted (implementation of State legislation/existing City programs), 3) total reduction (implementation of State legislation/existing City programs, and the CAAP measures and actions.)

As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase by approximately 35 percent between 2017 and 2045 based on economic and population growth. However, with implementation of State laws and existing City programs, communitywide GHG emissions would decline by approximately 3 percent between 2017 and 2045. Furthermore, full implementation of the CAAP alongside State laws and existing City programs would reduce absolute communitywide GHG emissions by approximately 40 percent below 1990 levels by 2030 and by approximately 98 percent below 1990 levels by 2045.⁸

Figure 2 Pinole Total GHG Emissions Forecast, 2017 to 2045



⁸ This represents significant progress towards the City's long-term goal of carbon neutrality by 2045. The City will rely on new measures in the form of regular CAAP updates, new State legislation and new technological advances to achieve this target.

Table 4 Pinole GHG Emissions Forecast Through 2045

Sector	2017 (MT of CO ₂ e)	2030 (MT of CO ₂ e)	2045 (MT of CO ₂ e)
Business-as-Usual GHG Emissions			
Transportation	35,719	42,076	47,413
Energy	33,088	38,331	45,359
Water & Wastewater	165	196	239
Solid Waste	3,300	3,912	4,761
Total	72,273	84,515	97,772
GHG Emissions After Implementation of State Legislation/Existing City Programs			
Transportation	35,719	34,860	33,890
Energy	33,088	29,960	31,102
Water & Wastewater	165	169	148
Solid Waste	3,300	3,912	4,761
Total	72,273	68,902	69,901
GHG Emissions After Implementation of State Legislation/Existing City Programs and Pinole CAAP			
Transportation	35,719	27,117	329
Energy	33,088	19,477	0
Water & Wastewater	165	169	148
Solid Waste	3,300	553	678
Total	72,273	47,316	1,155

MT = metric tons; CO₂e = carbon dioxide equivalents

State legislation and existing programs include State vehicle fuel efficiency standards, the Renewable Portfolio Standard, triennial updates of Title 24, and community-wide enrollment in Marin Clean Energy (MCE).

Source: Pinole, City of. 2023. Pinole Forecasts and Targets.

At this time, the State has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2022 Climate Change Scoping Plan to demonstrate how the State will achieve carbon neutrality by 2045 set by AB 1279.

While State and regional regulations related to energy and transportation systems, along with the State's Cap-and-Trade program, are designed to be set at limits to achieve most of the GHG emissions reduction needed to achieve the State's long-term targets, local governments can do their fair share toward meeting the State's targets by siting and approving projects that accommodate planned population growth and projects that are GHG-efficient. The Association of Environmental Professional (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of State climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation, or Executive Orders (EO).

The City has adopted a longer-term goal of achieving carbon neutrality by 2045 and has proposed the CAAP as a pathway to make progress toward this goal. Implementation of the CAAP would achieve an approximately 40 percent reduction in communitywide GHG emissions below 1990 levels by 2030.⁹ Therefore, the City's longer-term target of carbon neutrality and the associated CAAP

⁹ (78,982 MT of CO₂e – 47,273 MT of CO₂e) / 78,982 MT of CO₂e = 40 percent reduction

CEQA GHG Emissions Thresholds and Guidance

establish a trajectory that provides GHG emissions reduction equal to those required by SB 32 for 2030. Because SB 32 is considered an interim target toward meeting the State's long-term goals, implementation of the Pinole CAAP would make substantial progress toward meeting the State's long-term goal. Avoiding interference with, and making substantial progress toward, these long-term State targets is important because these targets have been set at levels that achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences described in Appendix A (AB 1279).

3 Regulatory and Legal Setting

The following regulations, EOs, and case law pertain to the analysis of GHG emissions consistent with CEQA and the CEQA Guidelines.

3.1 Relevant CEQA Guidelines Sections

Pursuant to the requirements of SB 97, the California Natural Resources Agency has adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines, which were last updated in December 2018, provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG emissions and climate change impacts.

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions generated by a proposed plan/project would be significant if the plan/project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a plan/project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a plan/project are limited. As discussed in Appendix A, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more wildfires, are already occurring. As a result, cumulative impacts related to GHG emissions and climate change are significant. Therefore, per CEQA Guidelines Section 15064.4(b), the analysis of GHG emissions under CEQA typically involves an analysis of whether a plan or project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

The following sections of the CEQA Guidelines (last updated on December 28, 2018) pertain to the creation of significance thresholds and the analysis of a plan/project's GHG emissions.

CEQA Guidelines Section 15064(b)

- (1) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

- (2) Thresholds of significance, as defined in Section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. When using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant.¹⁰

CEQA Guidelines Section 15064.4

- (a) The determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to
 - (1) Quantify GHG emissions resulting from a project; and/or
 - (2) Rely on a qualitative analysis or performance-based standards.
- (b) In determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to Statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and State regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from GHG emissions on the environment:
 - (1) The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
 - (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
 - (3) The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions (see, e.g., section 15183.5[b]). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

¹⁰ 2022 CEQA Guidelines.

- (c) A lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.¹¹

CEQA Guidelines Section 15064.7

- (a) A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.
- (b) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).
- (c) When adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.
- (d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all the following:
- (1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;
 - (2) adopted for the purpose of environmental protection;
 - (3) addresses the environmental effect caused by the project; and,
 - (4) applies to the project under review.¹²

¹¹ Ibid.

¹² Ibid.

CEQA Guidelines Section 15183.5

- (a) Lead agencies may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of GHG emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175–15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).
- (b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions or similar document. A plan to reduce GHG emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.
 - (1) Plan Elements. A plan for the reduction of GHG emissions should:
 - (A) Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
 - (B) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
 - (C) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
 - (D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
 - (E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
 - (F) Be adopted in a public process following environmental review.
 - (2) Use with Later Activities. A plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of GHG emissions, an EIR must be prepared for the project.

- (c) Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed use projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks. A lead agency should consider whether such projects may result in GHG emissions resulting from other sources, however, consistent with these Guidelines.¹³

CEQA Guidelines Section 15126.4(c)

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of GHG emissions. Measures to mitigate the significant effects of GHG emissions may include, among others:

- (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the CEQA Guidelines;
- (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
- (4) Measures that sequester GHGs;
- (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of GHG emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.¹⁴

3.2 Relevant State and Regional GHG Reduction Targets

Executive Order S-03-05

On June 1, 2005, the governor issued EO S-03-05, which established a statewide goal of reducing GHG emissions to 1990 levels by 2020 and created the Climate Action Team. The 2020 GHG reduction target contained in EO S-03-05 was later codified by Assembly Bill (AB) 32.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the State's goal of reducing Statewide GHG emissions to 1990 levels by 2020 and requires the California Air Resources Board (CARB) to prepare a Scoping Plan that outlines the main State strategies for

¹³ Ibid.

¹⁴ Ibid.

reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 million metric tons (MMT) of CO₂e. The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.¹⁵

2014 Assembly Bill 32 Scoping Plan Update

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.¹⁶

Executive Order B-30-15

On April 29, 2015, the governor issued EO B-30-15, which established Statewide GHG emission reduction targets of 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The 2030 GHG emissions reduction target contained in EO B-30-15 was later codified by SB 32.

Senate Bill 32

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the Statewide reduction of GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). The bill charges CARB to adopt the regulation so that the maximum technologically feasible emissions reductions are achieved in the most cost-effective way.

2017 Scoping Plan Update

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 .

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city,

¹⁵ CARB. 2008. *Climate Change Scoping Plan*. December 2008.
https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

¹⁶ CARB. 2014. *First Update to the Climate Change Scoping Plan*. May 15, 2014.
https://www3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

Senate Bill 375

SB 375, signed in August 2008, enhances the state’s ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO’s Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as “transit priority projects” would receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments (ABAG) was assigned targets of a 7 percent reduction in GHGs from transportation sources by 2020 and a 15 percent reduction in GHGs from transportation sources by 2035. ABAG adopted the 2050 RTP (Plan Bay Area 2050) in October 2021, which includes the region’s SCS and meets the requirements of SB 375.¹⁷

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

2022 Scoping Plan Update

Provides a framework for achieving the 2030 goal and working towards carbon neutrality by 2045 set by SB 32. The 2022 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies. The 2022 Scoping Plan also puts an increased emphasis on economic, environmental, energy security, environmental justice, and public health priorities.

Assembly Bill 1279

On August 31, 2022, the California Legislature passed AB 1279, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. The bill also requires statewide anthropogenic GHG emissions to be reduced to at least 85% below 1990 levels. This goal is in addition to the existing Statewide GHG emission reduction targets established by SB 375, SB 32, SB 1383, and SB 100. AB 1279 also tasked CARB with including a pathway toward the AB 1279 carbon neutrality goal, which was developed as part of the 2022 Climate Change Scoping Plan.

¹⁷ Association of Bay Area Governments. October 2021. Plan Bay Area 2050.

3.3 Relevant GHG Emissions Analysis Case Law

Friends of Oroville v. City of Oroville (Case No. 070448)

The Third District Court of Appeal decision in the *Friends of Oroville v. City of Oroville* case was published on August 19, 2013. This decision evaluated the methodology used to analyze GHG emissions in an Environmental Impact Report (EIR) prepared for a Wal-Mart Supercenter development project that included replacing an existing Wal-Mart store with a Wal-Mart Supercenter in Oroville in Butte County. The EIR used consistency with the AB 32 emissions reduction target as the significance threshold for evaluating the project's GHG emissions and compared the magnitude of the proposed project's emissions to statewide 2004 emission levels as part of the analysis. The Court found that EIR applied "a meaningless, relative number to determine insignificant impact" rather than evaluating the project's emissions in light of the AB 32 emissions reduction target. The Court also found that the EIR "misapplied the [AB] 32 threshold-of-significance standard by [1] failing to calculate the GHG emissions for the existing Wal-Mart and [2] failing to quantitatively or qualitatively ascertain or estimate the effect of the Project's mitigation measures on GHG emissions." The Court determined that the EIR could and should have performed these quantifications to adequately evaluate the project's GHG emissions using the AB 32 emissions reduction target.

Sierra Club v. County of San Diego (Case No. 37-2018-00043084-CU-TT-CTL)

The Fourth District Court of Appeal decision in the *Sierra Club v. County of San Diego* case was published on October 29, 2014. This decision evaluated the adequacy of the Climate Action Plan prepared by the County of San Diego to satisfy Mitigation Measure CC-1.2 of the program EIR prepared for the 2011 General Plan. To reduce GHG emissions impacts of the 2011 General Plan to a less-than-significant level, Mitigation Measure CC-1.2 required the preparation of a CAP that would include "more detailed GHG emissions reduction targets and deadlines" and that would "achieve comprehensive and enforceable GHG emissions reduction of 17 percent (totaling 23,572 MT of CO₂e) from County operations from 2006 by 2020 and 9 percent reduction (totaling 479,717 MT of CO₂e) in community emissions from 2006 by 2020." The Court found the CAP did not include enforceable and feasible GHG emission reduction measures that would achieve the necessary emissions reduction; therefore, the CAP did not meet the requirements of Mitigation Measure CC-1.2 and would not ensure that the mitigation measure would reduce GHG emissions to a less-than-significant impact. In addition, the Court found that the County failed to evaluate the environmental impacts of the CAP and the associated thresholds of significance under CEQA.

Center for Biological Diversity v. California Department of Fish and Wildlife (Case No. 217763)

The California Supreme Court's decision in the *Center for Biological Diversity v. California Department of Fish and Wildlife* case was published on November 30, 2015. This decision evaluated the methodology used to analyze GHG emissions in an EIR prepared for the Newhall Ranch development project that included approximately 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in Los Angeles County. The EIR used a business-as-usual approach to evaluate whether the project would be consistent with the AB 32 Scoping Plan. The Court found there was insufficient evidence in the record of that project to explain how a project that reduces its GHG emissions by the same percentage as the business-as-usual reduction identified for the State to

meet its Statewide targets supported a conclusion that project-level impacts were below the level of significance.

The California Supreme Court suggested regulatory consistency as a pathway to compliance by stating that a lead agency might assess consistency with the State's GHG reduction goals by evaluating for compliance with regulations designed to reduce GHG emissions. This approach is consistent with CEQA Guidelines Section 15064.4(b), which provides that a determination of an impact is not cumulatively considerable to the extent to which the project complies with regulations or requirements implementing a Statewide, regional, or local plan to reduce or mitigate GHG emissions. The Court also found that a lead agency may rely on numerical and efficiency-based thresholds of significance for GHG emissions, if supported by substantial evidence.

Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego (Case No. 072406)

The Fourth District Court of Appeal decision in the *Golden Door Properties, LLC v. County of San Diego* case (published on September 28, 2018) evaluated the County of San Diego's 2016 Guidance Document's GHG efficiency metric, which establishes a generally applicable threshold of significance for proposed projects. The Court held that the County of San Diego is barred from using its 2016 Guidance Document's threshold of significance of 4.9 MT of CO₂e per service person per year for GHG analysis. The Court stated that the document violated CEQA because it was not adopted formally by ordinance, rule, resolution, or regulation through a public review process per CEQA Guidelines Section 15064.7(b). The Court also found that the threshold was not supported by substantial evidence that adequately explained how a service population threshold derived from Statewide data could constitute an appropriate GHG metric to be used for all projects in unincorporated San Diego County. Nevertheless, lead agencies may make plan- or project-specific GHG emissions threshold determinations.

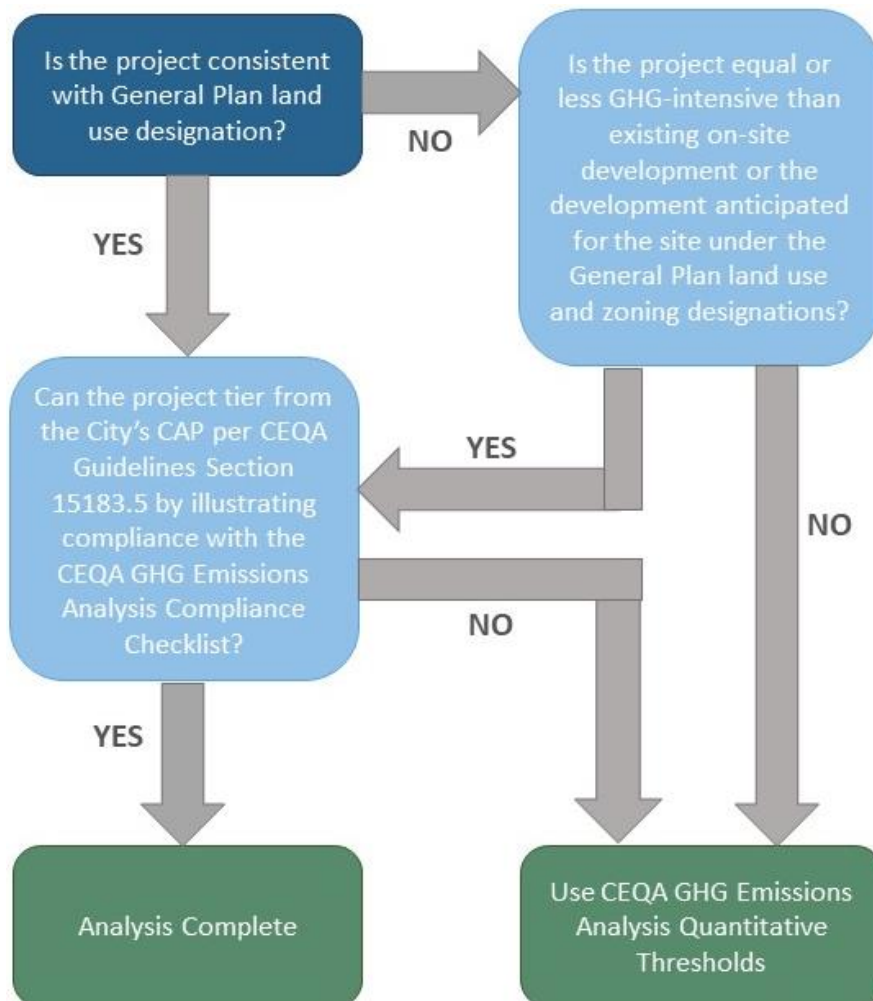
Climate Action Campaign v. City of San Diego (Case No. 37-2022-00036430-CU-TT-CTL)

The Superior Court of California in the *Climate Action Campaign v. City of San Diego* case is currently evaluating the City of San Diego's compliance with CEQA as part of their Climate Action Plan (the case was filed on September 12, 2022). The Climate Action Campaign alleges that the City of San Diego failed to comply with CEQA because the City of San Diego failed to adequately analyze or mitigate significant impacts and failed to specify criteria or standards to ensure the Climate Action Plan's emission reductions would be achieved. The Climate Action Campaign accordingly request that the Superior Court of California issue a writ of mandate under California Code of Civil Procedure sections 1085 and 1094.5 directing the City of San Diego to vacate and set aside its previous approvals as part of the Climate Action Plan. A verified petition for writ of mandate has been filed, with a final decision by the Superior Court of California pending.

4 Determining Consistency with the CAAP

As discussed in Chapter 2, *Climate Action Plan Summary*, the Pinole CAAP is a qualified GHG emission reduction plan per the requirements of CEQA Guidelines Section 15183.5 for year 2030 and can, therefore, be utilized to streamline the GHG emissions analysis for plans and projects with buildout years through 2030. Projects that are consistent with the demographic forecasts and land use assumptions in the CAAP can utilize the City's CEQA GHG Checklist to demonstrate consistency with the CAAP GHG emissions reduction strategy, and if consistent, can tier from the environmental review contained in the CAAP IS-ND. In doing so, these projects would result in less-than-significant GHG emissions and not result in a cumulatively considerable GHG emissions impact. The following process (see Figure 3) shows how to demonstrate a plan/project's consistency with the CAAP's GHG emissions reduction strategy and, thereby, tier from the IS-ND for the CAAP. This approach is consistent with the recommendations of the AEP Climate Change Committee for tiering from qualified GHG reduction plans that demonstrate substantial progress toward meeting the next milestone Statewide planning reduction target (i.e., a 40 percent reduction below 1990 levels by 2030 as set forth by SB 32).

Figure 3 Determining Consistency with the Pinole CAAP



Step 1: Consistency with Demographic Forecasts and Land Use Assumptions

The demographic forecasts of the CAAP are based on ABAG's demographic forecasts (PBA 2040 and PBA 2050) and the growth projected in the City's 2010 General Plan with 2023-2031 Housing Element Update. If a plan/project is consistent with the existing (2010) General Plan land use of the plan area/project site as identified in the Pinole General Plan, then the plan/project is consistent with the Business as Usual (BAU) demographic forecasts and land use assumptions of the CAAP and can move on to Step 2. In such cases, the plan/project's associated GHG emissions were accounted for in the GHG emissions forecasts included in the CAAP and, therefore, are within the scope of this plan's analysis of communitywide GHG emissions. Accordingly, the analysis of the plan/project's GHG emissions in its CEQA document should include a reference to the plan/project's consistency with the existing (2010) General Plan land use of the plan area/project site and should explain the connection between the existing (2010) General Plan land use and the GHG emissions forecasts in the CAAP. Then, proceed to Step 2. Note that this general methodology can also be utilized for projects with a post-2030 buildout year; however, the CEQA GHG thresholds would need to be updated to match the latest, adopted General Plan land use designations as well as the latest, adopted CAAP.

If a plan/project is not consistent with the existing (2010) General Plan land use of the plan area/project site but would result in equivalent or fewer GHG emissions as compared to existing on-site development or the development anticipated for the site under the City's existing (2010) General Plan, then the plan/project would still be within the demographic forecasts and land use assumptions of the CAAP and can move on to Step 2. To provide substantial evidence for this determination, GHG emissions generated under existing conditions/existing (2010) General Plan buildout and the proposed project need to be quantified and included in the CEQA analysis. See Chapter 6, *Quantifying GHG Emissions*, for guidance on quantifying GHG emissions for existing conditions/existing (2010) General Plan buildout and the proposed plan/project. In this case, the analysis of the plan/project's GHG emissions in its CEQA document should include a quantitative comparison of the proposed plan/project's GHG emissions and GHG emissions generated by existing on-site development, or the development anticipated for the site under the City's existing (2010) General Plan. The analysis should clearly explain how the plan/project's emissions are equivalent or less than those generated by existing on-site development, or the development anticipated for the site under the City's existing (2010) General Plan.

If a plan/project is not consistent with the existing (2010) General Plan land use of the plan area/project site and would result in either new development of undeveloped land or redevelopment with higher GHG emissions than existing on-site development or than the development anticipated for the site under the City's existing (2010) General Plan, the plan/project cannot use the CEQA GHG Emissions Analysis Compliance Checklist to tier from the adopted IS-ND for the CAAP. Instead, the plan/project's GHG emissions can be evaluated using the quantitative GHG thresholds described in Chapter 5, *Utilizing Quantitative CEQA GHG Thresholds*, to evaluate the significance of the plan/project's GHG emissions.

Step 2: Consistency with CEQA GHG Emissions Analysis Compliance Checklist

The City has prepared the CEQA GHG Emissions Analysis Compliance Checklist for plans and projects to confirm they are consistent with the strategies of the CAAP. A project applicant can utilize the checklist to show that a plan/project includes all applicable strategies of the CAAP. Projects that use the CEQA GHG Emissions Analysis Compliance Checklist are not required to quantify reductions

from the strategies included on the checklist, because the reductions from applicable strategies have already been quantified at a programmatic level in the CAAP.

If a plan/project is consistent with the applicable strategies on the CEQA GHG Emissions Analysis Compliance Checklist, then the plan/project can streamline from the plan/project-level CEQA GHG emissions analysis utilizing the programmatic GHG emissions environmental review included in the adopted IS-ND for the CAAP pursuant to CEQA Guidelines Section 15183.5(b)(1).

A plan/project that is consistent with all applicable strategies of the CEQA GHG Emissions Analysis Compliance Checklist would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change. In this case, the analysis of a plan or project's GHG emissions in its respective CEQA review document should include a qualitative summary of the plan/project's consistency with applicable measures of the CEQA GHG Emissions Analysis Compliance Checklist and an explanation with substantial evidence of why any strategies in the checklist are not applicable to the plan/project.

5 Utilizing Quantitative CEQA GHG Thresholds

As discussed in Chapter 4, *Determining Consistency with the CAAP*, if a plan/project is not consistent with the existing (2010) General Plan land use of the plan area/project site or has a post-2030 buildout year or is not consistent with all applicable GHG reduction strategies of the CAAP as listed in the CEQA GHG Emissions Analysis Compliance Checklist, then that plan/project cannot utilize the CEQA GHG Emissions Analysis Compliance Checklist to streamline its project/plan-level GHG emissions analysis in a qualitative manner. Instead, the significance of that plan/project's GHG emissions can be evaluated using quantitative GHG thresholds derived from the assumptions of the CAAP. If that plan/project's GHG emissions are at or below the applicable quantitative threshold and it has a pre-2030 buildout year, it can be determined that the project/plan would result in a less than significant GHG emissions impact. Similarly, if a CAAP-specific project can tier from the existing programmatic environmental review contained in the adopted programmatic IS-ND for the CAAP, GHG emissions impacts associated with that project would also be considered less than significant. In doing so, such plans/projects would not result in a cumulatively considerable impact related to GHG emissions and climate change. In addition, plans/projects with post-2030 buildout year and GHG emissions at or below the quantitative thresholds for 2045, which equate to net zero MT of CO₂e per year, would be considered less-than-significant and would not result in a cumulatively considerable GHG emissions impact. Note that the CEQA GHG thresholds need to be updated for consistency when new General Plan land use designations and new CAAP updates are adopted. The following sections provide an explanation of the methodology used to calculate the quantitative GHG emissions thresholds, guidance on how to utilize the thresholds, and justification for use of the thresholds.

5.1 Thresholds Calculation Methodology

CEQA Guidelines Section 15064.4 does not establish a specific quantitative threshold of significance for evaluating GHG emissions associated with a proposed plan or project. As mentioned above, lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, if the threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7[c]). The following methodology is consistent with guidance provided by the AEP Climate Change Committee in 2016 for establishing GHG emissions efficiency thresholds using the local jurisdictional GHG inventory and demographic forecasts.¹⁸

An efficiency threshold is a threshold expressed as a per-person metric (e.g., per resident, per employee, or per service person). Efficiency thresholds are calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the resident, employee, or service population in that year. The efficiency threshold identifies the quantity of GHG emissions that can be generated on a per-person basis without significantly impacting the environment.

¹⁸ AEP. 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf.

Locally appropriate, plan- and project-specific GHG emissions efficiency thresholds were derived from the GHG emissions forecasts calculated for the CAAP. These thresholds were created to comply with CEQA and the CEQA Guidelines and interpretive GHG emissions analysis case law, which are summarized in Chapter 3, *Regulatory and Legal Setting*. The City of Pinole GHG emissions efficiency thresholds were calculated using the emissions forecasts with all local emissions sectors included, because plans and projects would generate vehicle trips, consume energy and water, and produce wastewater and solid waste, thereby generating emissions in all categories. Efficiency thresholds were calculated for the year 2030 to provide GHG emissions thresholds for new development in line with the State’s next milestone target for year 2030.

GHG emissions efficiency thresholds would be used during the CEQA review process for new residential, non-residential, and mixed-use plans and projects. Therefore, forecasted GHG emissions in the 2030 CAAP were disaggregated into existing development and new development for each threshold year. Forecasted GHG emissions for new development were further disaggregated into residential and non-residential development for each threshold year for the purpose of calculating thresholds specific to residential, non-residential, and mixed-use projects. The results of the disaggregation of the GHG emissions forecast are presented in Figure 4 and Table 5, which summarizes the total amount of GHG emissions expected to be generated by existing, new residential, and new non-residential development for threshold year 2030.

Figure 4 Allowable GHG Emissions from Existing and New Development in 2030

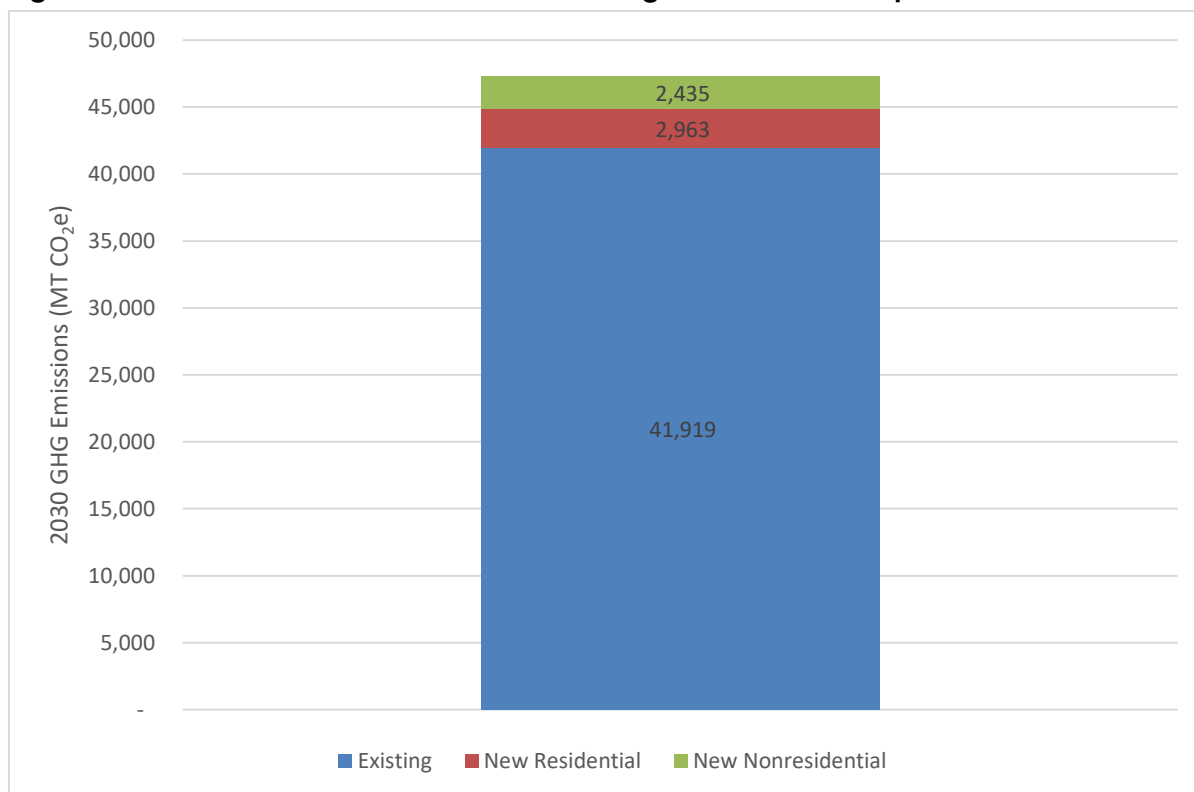


Table 5 GHG Emissions Reductions for Year 2030 by Type of Development (MT of CO₂e)

Source	Existing Development	New Development	
		Residential	Non-Residential
Baseline GHG Emissions	72,273	6,654	5,588
State Legislation/Existing City Programs	(12,552)	(1,430)	(1,631)
2030 CAAP Energy Measures	(8,475)	(1,329)	(680)
2030 CAAP Transportation Measures	(6,493)	(579)	(670)
2030 CAAP Waste Measures	(2,834)	(354)	(172)
Remaining Total GHG Emissions	41,919	2,963	2,435
Note: () denotes a negative number See Appendix B for calculations.			

Table 6 summarizes the demographic projections for the City of Pinole that were used in calculating GHG efficiency thresholds for year 2030. As shown below, the numbers of residents, employees, and service persons are all anticipated to increase between 2017 and 2030.

Table 6 Pinole Demographic Projections

Metric	2017 Estimate	2030 Forecast	Net Increase from New Development (2017-2030)
Residents	19,663	23,110	3,447
Employees	7,970	9,645	1,674
Service Population ¹	27,633	32,755	5,122
¹ Service population is equal to residential population plus the number of employees. Source: Pinole, City of. 2022. <i>Community Greenhouse Gas Emissions Inventory and Forecast</i> .			

5.2 Thresholds and Use

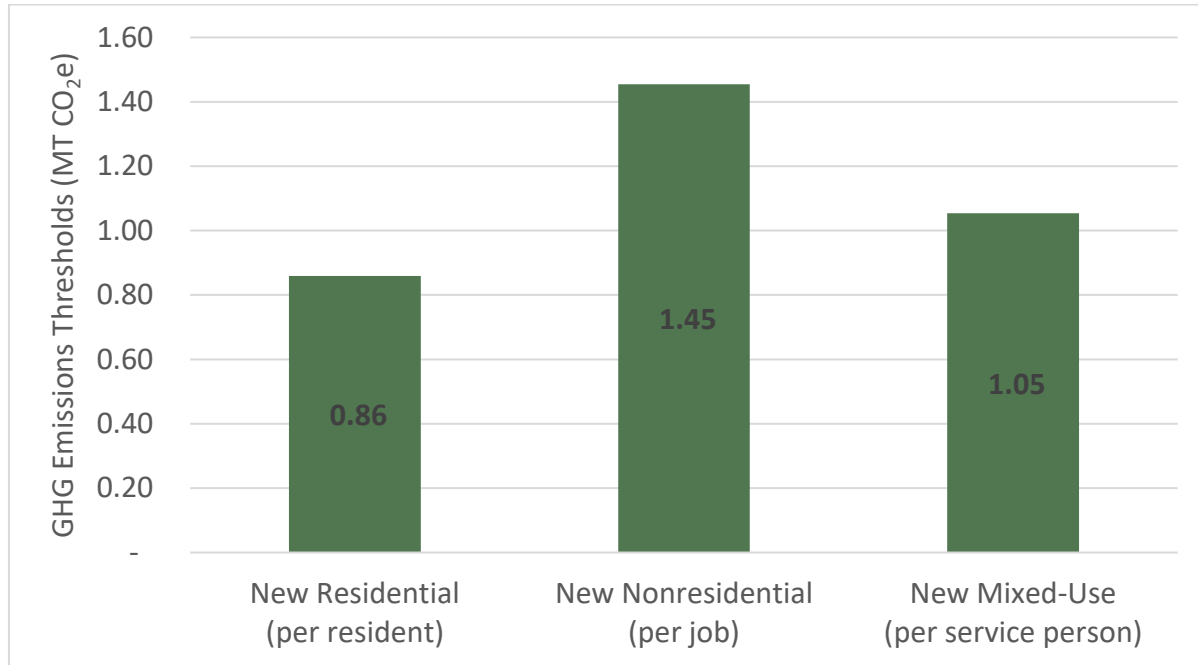
The GHG efficiency thresholds for residential, non-residential, and mixed-use projects built prior to December 31, 2030 are presented in Figure 5 and Table 7. If a plan or project's emissions do not exceed the applicable threshold, then it is considered consistent with the Pinole CAAP and its GHG emissions impacts (both project- and cumulative-level) would not result in a cumulatively considerable impact related to GHG emissions and climate change and would, therefore, be less than significant. If a plan/ project's emissions exceed the applicable threshold, then mitigation measures must be identified, and respective GHG emissions reduction calculations included within the CEQA review document in order to reduce plan or project GHG emissions to at or below the applicable threshold level. These thresholds are applicable to the following plan and project types proposed in Pinole:

- **Residential.** Single-family dwellings, multi-family dwellings, accessory dwelling units, boarding house, caretaker quarters, fraternities and sororities, high-occupancy residential uses, continuing care communities, mobile-home parks, or any combination of these uses.
- **Non-residential.** All commercial uses (including office and retail uses), all lodging uses, all public and quasi-public uses, older adult and long-term care, hospice in-patient facilities, family day cares, residential care facilities, supportive and/or transitional housing, sports and entertainment assembly facilities, all industry, manufacturing and processing, and wholesaling

CEQA GHG Emissions Thresholds and Guidance

uses that are not subject to Bay Area Air Quality Management District's (BAAQMD) stationary source permitting or the State Cap-and-Trade program, or any combination of these uses.

- **Mixed-use.** A combination of at least one residential and at least one non-residential land use specified above.

Figure 5 Pinole GHG Efficiency Thresholds

Source: Appendix B, CEQA GHG Thresholds Calculations

Table 7 Pinole Locally Applicable Plan/Project CEQA GHG Emissions Thresholds

	2030 New Development		
	Non-Residential	Residential	Mixed-Use
GHG Emissions Forecast (MT of CO ₂ e per year) ¹	2,556	3,059	5,626
Demographic Metric ²	1,674 new employees	3,447 new residents	5,122 new service persons
GHG Efficiency Threshold (MT of CO ₂ e per year)	1.45 per employee	0.86 per resident	1.05 per service person

MT = metric tons; CO₂e = carbon dioxide equivalents

¹ Emissions from new mixed-use development would count against the total remaining GHG budget for both new residential and new non-residential development rather than as a function of the number of new service people expected in 2030. This avoids double counting.

² Demographic estimates were calculated using the forecasts in Table 6.

Source: Appendix B, CEQA GHG Thresholds Calculations

5.3 Justification for Thresholds

Per CEQA Guidelines Section 15064(b)(1), “the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data.” In addition, CEQA Guidelines Section 15064(b)(2) states, “When using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project’s impacts are less than significant.” Furthermore, CEQA Guidelines Section 15064.7(b) states, “Thresholds of significance to be adopted for general use as part of the lead agency’s environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence.” Therefore, the key considerations when developing thresholds of significance are 1) the thresholds’ basis on scientific and factual data; 2) demonstration of how compliance with the thresholds reduces project impacts to a less than significant level; 3) support of the thresholds by substantial evidence; and 4) adoption of the thresholds by ordinance, resolution, rule, or regulation, and developed through a public review process. The following subsections address these four key considerations.

Basis of Scientific and Factual Data

As discussed in Section 5.1, *Thresholds Calculation Methodology*, the quantitative thresholds were developed using data from the City’s 2017 communitywide GHG inventories and the GHG emissions forecasts for year 2030. These inventories and forecasts were developed by the City in compliance with all relevant protocols and guidance documents, including the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Local Government Operations Protocol, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. Furthermore, the inventories and forecasts are based on locally appropriate data for Pinole provided by Marin Clean Energy (MCE), Pacific Gas & Electric (PG&E), Bay BAAQMD, CARB, solid waste management providers, and water providers.¹⁹ Therefore, the emissions inventory and forecast data underlying the thresholds is both scientific and factual.

As discussed in Section 2.3, *GHG Emissions Forecast*, implementation of the Pinole CAAP will achieve a 40 percent reduction in 1990 emissions levels by 2030 (equivalent to 47,273 MT of CO₂e 2030). Therefore, this local target makes substantial progress toward achieving the State’s long-term goal of carbon neutrality by 2045. The quantitative thresholds are tied directly to the level of GHG emissions anticipated for new development in the CAAP for year 2030. As a result, because the CAAP is consistent with the State’s 2030 GHG emission target, the quantitative thresholds are also consistent with the next State milestone GHG emission reduction target for 2030. The State’s GHG emission reduction targets for 2030 and 2045 are set at the levels scientists say are necessary to meet the Paris Agreement goals to reduce GHG emissions and limit global temperature rise below two degrees Celsius by 2100 in order to avoid dangerous climate change (CARB 2022; AB 1279). Therefore, the City’s emission reduction targets that inform the CAAP and the associated quantitative thresholds are based on scientific and factual data on the level of emissions reduction necessary to avoid a cumulatively considerable contribution to the cumulative impact of climate change.

¹⁹ Pinole, City of. 2022. Community Greenhouse Gas Emissions Inventory and Forecast.

Reduction of Plan or Project Impacts to a Less-than-Significant Level

The quantitative GHG thresholds shown in Section 5.2, *Thresholds and Use*, are tied directly to the level of GHG emissions anticipated for new development in the CAAP for year 2030. Therefore, the thresholds are consistent with the City's local emission reduction target, which is consistent with the State's GHG emission reduction targets. As mentioned in the preceding subsection, the State's GHG emission reduction targets for 2030 and 2045 are set at the levels scientists say are necessary to meet the Paris Agreement goals to reduce GHG emissions and limit global temperature rise below two degrees Celsius by 2100 in order to avoid dangerous climate change (CARB 2022; AB 1279). Therefore, the quantitative thresholds are set at the level necessary to ensure the City does not have a considerable contribution to the cumulative impact of climate change. As a result, plans and projects with GHG emissions at or below the quantitative thresholds would also not have a considerable contribution to the cumulative impacts of climate change, and plan/project impacts would be less than significant.

Support of Substantial Evidence

Substantial evidence regarding the calculation of the quantitative GHG emissions thresholds is provided in Section 5.1, *Thresholds Calculation Methodology*. The following subsections provide additional evidence of how the GHG emissions thresholds are locally appropriate and plan- or project-specific and how the thresholds distinguish between existing and new development.

Use of Local Data

The quantitative thresholds were developed using the City's communitywide GHG emissions forecast for year 2030 and are therefore specific to the City of Pinole. The thresholds are directly tied to the population and employment growth anticipated by the Association of Bay Area Governments (ABAG) and in alignment with the Pinole 2010 General Plan Land Use/Community Character and updated Housing Elements as well as to the City-specific GHG emission reduction measures that the City has proposed to reduce communitywide emissions. In addition, the magnitude of local GHG emission reduction achieved by State legislation/policies (i.e., vehicle fuel efficiency standards, the Renewable Portfolio Standard [RPS], and Title 24) was estimated based on City-specific growth and vehicle miles travelled (VMT) forecasts. As a result, these locally appropriate thresholds directly address the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case, because they are based on local GHG emissions data rather than Statewide GHG emissions data.

Disaggregation of Existing versus New Development

The quantitative thresholds were developed by disaggregating the County's business-as-usual GHG emissions forecasts for year 2030 into emissions forecasts for existing and new development, as shown in Table 5. The emissions reductions specific to new development achieved by State legislation/policies and the 2030 CAAP were then subtracted from the business-as-usual forecast to determine the maximum limit of emissions from new residential and new non-residential development for year 2030. These limits were then divided by the numbers of residents, employees, and service persons forecasts for new development to determine efficiency thresholds for residential, non-residential, and mixed-use development, respectively. Therefore, these thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case regarding the different rates of GHG emissions reductions anticipated

for new development as compared to existing development in order to meet the specified GHG reduction target.

Selection of Sector-Specific Thresholds

The quantitative thresholds are separated into three categories – residential, non-residential, and mixed-use – which are intended to apply to the three main types of development projects in Pinole. These thresholds were calculated by disaggregating the City’s business-as-usual GHG emissions forecasts for residential and non-residential development. The emissions reduction specific to residential and non-residential development achieved by State legislation/existing City programs and the CAAP were then subtracted from the business-as-usual forecast to determine the maximum limit of emissions for new residential and new non-residential development for year 2030. These emissions limits were then divided by the numbers of residents and employees forecast for the year 2030 to determine efficiency thresholds for residential and non-residential projects, respectively. For mixed-use development, the residential and non-residential emissions limits were summed, then divided by the service population forecast for 2030 to determine an efficiency threshold for mixed-use projects. As a result, these project-specific thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case, because they are specific to each development project type.

Adoption via Public Review Process

In compliance with CEQA Guidelines Section 15064.7(b), this guidance document and the quantitative thresholds contained herein will be presented to the City Council for formal adoption via resolution through a public review process, which will include an opportunity for public input. The public review process for these City of Pinole CEQA GHG Thresholds and Guidance will specifically occur via public availability to comment on the draft resolution item during a public meeting (i.e., Board of Supervisors hearing). This process directly addresses the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case regarding formal adoption of new CEQA thresholds.

6 Quantifying GHG Emissions

There are a variety of analytical tools available to estimate project-level GHG emissions, including the California Emissions Estimator Model (CalEEMod),²⁰ which is a free, publicly available computer model developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with various air quality districts throughout the State. Alternative tools may be used to quantify emissions if they can be substantiated. In general, the most current version of CalEEMod should be used to calculate total emissions for discretionary development projects. The analysis should focus on carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) because these are the GHGs that most development projects would generate in the largest quantities. Fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides, should also be considered for the analysis as reported in CalEEMod from refrigerants used in air conditioning and refrigeration equipment. Emissions of all GHGs should be converted into their equivalent global warming potential in terms of CO₂ (CO₂e). Calculations should be based on the current methodologies recommended by the CAPCOA and the BAAQMD.^{21, 22}

6.1 Construction GHG Emissions

Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment, in on-road construction vehicles, and in the commute vehicles of the construction workers. Smaller amounts of GHGs are emitted indirectly through the energy required for water used for fugitive dust control and lighting for the construction activity. Every phase of the construction process, including demolition, grading, paving, and building, emits GHG emissions in volumes proportional to the quantity and type of construction equipment used. Heavier equipment typically emits more GHGs per hour than lighter equipment because of its engine design and greater fuel consumption.

BAAQMD recommends quantifying and disclosing construction related GHG emissions and making an impact level determination. CalEEMod generates a default construction schedule and equipment list based on the plan/project-specific information, including land use, project size, location, and construction timeline.²³ In general, if specific applicant-provided information is unknown, the default construction equipment list and phase lengths are the most appropriate inputs. However, if more detailed site-specific equipment and phase information (i.e., data from the project applicant) is available, the model's default values can (and should) be overridden.²⁴

²⁰ The most current available version of CalEEMod should be used. As of February 2022, CalEEMod version 2020.4.0 is the most current version and should be used to quantify project-level emissions.

²¹ California Air Pollution Control Officers Association. 2008. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA). January 2008.

²² BAAQMD. 2022. "CEQA Thresholds and Guidelines Update." <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>.

²³ CAPCOA. 2020. California Emissions Estimator Model User Guide: Version 2020.4.0. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. <http://www.aqmd.gov/caleemod/user's-guide>.

²⁴ Ibid.

6.2 Operational GHG Emissions

CalEEMod estimates operational emissions of CO₂, N₂O, and CH₄ generated by area sources, energy use, vehicle trips (i.e., mobile sources), waste generation, and water use and conveyance. Operational emissions should be calculated for the year 2030, rather than the plan/project buildout year, in order to provide an appropriate comparison of project emissions to the year 2030 threshold.

Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment, hearths, and woodstoves, which emit GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values in CalEEMod are derived from the 2011 Off-Road Equipment Inventory Model.²⁵ Emission rates for combustion of wood and natural gas for wood stoves and fireplaces are based on those published by the U.S. EPA in Chapter 1.9 of AP-42. Typically, no adjustments to landscaping equipment inputs are necessary. The number of hearths and woodstoves should be adjusted in CalEEMod to reflect the project design.

Energy Use Emissions

GHGs are emitted on-site during the combustion of natural gas for cooking, space and water heating, and decorative uses, as well as off-site during the generation of electricity from fossil fuels in power plants. CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the plan/project location and utility provider. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the building, such as plug-in appliances. Non-building energy use, or "plug-in energy use," can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.). In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting.

Electricity emissions are calculated by multiplying the energy use by the carbon intensity of the utility district per kilowatt hour.²⁶ Projects would be served either by MCE or by PG&E. The specific energy intensity factors (i.e., the amount of CO₂, CH₄, and N₂O per kilowatt-hour) for the applicable utility should be used in the calculations of GHG emissions.

As of publication of this guidance document, the current iteration of Title 24 included the 2019 Building Energy Efficiency Standards. In accordance with Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards, all new residential uses three stories or less must install photovoltaic (PV) solar panels that generate an amount of electricity equal to expected electricity usage. The calculation method contained in Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards should be utilized to estimate the number of kilowatts from PV solar panels would be required for a residential project three stories or less. In addition, modeling should account for local regulations

²⁵ Ibid.

²⁶ Ibid.

pertaining to mandatory solar provisions.²⁷ Online resources can be used to determine the amount of kilowatt-hours that would be generated per year by the required PV system.²⁸ The energy reduction achieved by on-site PV panels should be included in CalEEMod. Future updates to Title 24 as they relate to the Building Energy Efficiency Standards should be incorporated into CalEEMod as applicable.

Mobile Source Emissions

CalEEMod quantifies mobile source emissions generated by vehicle trips associated with the proposed plan/project. If available, plan/project-specific trip generation rates or VMT data should be input in CalEEMod.

Water and Wastewater Emissions

The amount of water used, and the amount of wastewater generated by a plan/project generate indirect GHG emissions. These emissions are a result of the energy used to supply, convey, and treat water and wastewater. In addition to the indirect GHG emissions associated with energy use, the wastewater treatment process itself can directly emit both CH₄ and N₂O.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's (2003) *Waste Not, Want Not: The Potential for Urban Water Conservation in California*.²⁹ Based on that report, a percentage of total water consumption is dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation is similarly based on a reported percentage of total indoor water use.

New development will be subject to the California Green Building Standards Code (CALGreen), which currently requires a 20 percent increase in indoor water use efficiency and the use of water-efficient irrigation systems. Thus, to account for compliance with CALGreen, a 20 percent reduction in indoor water use and the use of water-efficient irrigation systems should be included in the water consumption calculations for new residential, non-residential, and mixed-use development. Future updates to Title 24 as they relate to CALGreen water efficiency requirements should be incorporated into CalEEMod as applicable.

Solid Waste Emissions

The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste is calculated using waste disposal rates identified by CalRecycle. The methods for quantifying GHG emissions from solid waste are based on the IPCC method, using the degradable organic content of waste. CEQA document preparers should contact the City's Community Development Department to obtain the City's most recent solid waste diversion rate to be included in the calculation of solid waste GHG emissions.

²⁷ In 2020, the City Council will consider adoption of the Clean Energy Choice Program for New Buildings, which may include solar requirements for other types of land uses.

²⁸ Zientara, Ben. 2019. How much electricity does a solar panel produce? Last updated: November 6, 2019. <https://www.solarpowerrocks.com/solar-basics/how-much-electricity-does-a-solar-panel-produce/>.

²⁹ CAPCOA. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. <http://www.aqmd.gov/caleemod/user's-guide>.

Plan or Project Design Features

CEQA document preparers should use the “Mitigation” tabs in CalEEMod to include project design features applicable to the plan/project.³⁰ These features often include increased density, improved destination accessibility, proximity to transit, integration of below market rate housing, unbundling of parking costs, provision of transit subsidies, implementation of alternative work schedules, use of energy- and/or water-efficient appliances, use of reclaimed and/or grey water, and installation of water-efficient irrigation system. Users should consider the applicability of these features to the plan/project and review the CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* (2010) publication to ensure that the chosen features are relevant and feasible considering the plan/project.³¹

Residents, Employees, and Service Populations

The quantitative thresholds presented in Chapter 5, *Utilizing Quantitative CEQA GHG Thresholds*, are expressed in terms of per resident for residential projects, per employee for non-residential projects, and per service person for mixed-use projects. Estimates of the resident, employee, or service population for a plan/project should be based on substantial evidence. Data provided by the applicant as well as the following resources may be utilized in estimating resident and employee populations:

- **Persons per Household.** Users should refer to the California Department of Finance website (<https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/>) for the most recent estimate of persons per household in Pinole. This estimate can be multiplied by the number of proposed residential units to estimate a plan/project’s resident population.
- **Proposed Number of Beds.** For projects such as group homes, assisted living facilities, nursing homes, or similar uses, the number of beds can be used to determine the resident population.
- **United States Green Building Council.** The United States Green Building Council has published a summary of building area per employee by business type. These rates, which are expressed in terms of square feet per employee, can be utilized to estimate the number of employees a plan/project would require. This document is included as Appendix C.

6.3 Modeling GHG Emissions from Existing Land Use

For a plan/project that would result in a change in the plan area/project’s site General Plan land use designation, emissions anticipated for the existing (2010) General Plan land use designation must be calculated in conjunction with emissions for the proposed plan/project to demonstrate whether the plan/project would be more or less GHG-intensive than development anticipated for the existing (2010) General Plan land use designation for the site. In this case, GHG emissions should be reported for both the existing and proposed scenarios.

Emissions anticipated for the existing land use should be quantified using the methods described in Section 6.1, *Construction Emissions*, and Section 6.2, *Operational Emissions*, with consistent assumptions between the two scenarios as applicable. Any emission reduction credits applied to the proposed plan/project scenario that are related to State legislation/policies (e.g., the RPS, vehicle

³⁰ “Mitigation” is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA impact analysis.

³¹ CAPCOA. 2010. *Quantifying Greenhouse Gas Mitigation Measures*. August 2010. <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.

standards, Title 24) or the plan area/project site location (e.g., proximity to transit, destination accessibility, etc.) should also be applied to the existing scenario.

Emission reduction credits that are specific to the proposed plan/project (e.g., use of recycled water, increased density, installation of energy and/or water-efficient appliances, integration of below market rate housing, etc.) should only be included for the proposed plan/project scenario. In addition, care should be taken to identify any emission reduction credits that might be unique to the existing land use designation that would not apply to the proposed plan/project. For example, if the existing land use designation allows for single-family residences and the proposed land use designation would allow for only commercial uses, then the existing scenario should include the emission reduction credit associated with the 2019 Building Energy Efficiency Standards requirements for PV solar panels on residential uses that are three stories or less whereas the proposed plan/project scenario should not include this credit unless PV solar panels are included as a plan/project design feature.

7 Moving into the Future

Full implementation of the Pinole CAAP will reduce communitywide GHG emissions by approximately 40 percent below 1990 levels by 2030 and 98 percent by 2045, which would leave a gap of approximately 1,155 MT of CO₂e per year in 2045 that will need to be addressed to achieve carbon neutrality. This gap represents emissions that could be addressed by laws, regulations, policies, programs, and ordinances set forth by the federal and State governments, regional agencies, and local partners. The gap also represents the uncertainty that the City faces in taking a leadership role in addressing a challenge that has not been previously solved.

Pinole is committed to embracing that uncertainty, striving toward constant learning, engaging in systemic change using the tools and actions that local governments are uniquely suited to carry out, and positioning itself to take full advantage of future innovations, technologies, and policies and legislation that may be undertaken at the State and federal level through adaptive management techniques. Technological innovation and changes to climate related policy and regulation occur rapidly. Several of the State's most successful environmental policy initiatives, including the RPS, also had a gap between what was known at the time of adoption and eventual successful implementation. By committing to the ambitious target of carbon neutrality by 2045, Pinole intends to catalyze innovation, invite and acquire resources from funding sources and partners, and provide climate leadership.

The CAAP acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for updating and adopting a new climate action plan every five years (with annual assessment of progress) in order to incorporate new measures and innovative technologies that will further Pinole toward meeting its goal of carbon neutrality. As the CAAP is updated, the associated CEQA GHG Emissions Analysis Compliance Checklist will also be updated as needed to incorporate new strategies, measures, and/or foundational actions that discretionary development projects will need to incorporate, as applicable, to demonstrate consistency with the latest CAAP. At the time at which the City identifies measures to achieve its carbon neutrality goal in totality, the City will adopt those measures in a public process following CEQA review, at which time that updated CAAP will become a qualified GHG emission reduction plan for projects with post-2030 buildout years. However, the quantitative thresholds included in this guidance document will need to be updated, because residential, non-residential, and mixed-use projects with post-2030 buildout years will still need to achieve GHG emissions equivalent to zero MT of CO₂e per year to demonstrate consistency with the Pinole CAAP.

Finally, if future amendments or updates of the Pinole Land Use and Economic Development/Community Character Element and/or Housing Element occur, then such amendments or updates will be incorporated into future updates of the Pinole CAAP to allow project applicants to continue to utilize the streamlining process, which is partly dependent on a plan/project's consistency with the demographic forecasts and land use assumptions based on the General Plan Land Use/Community Character and Housing Elements to the greatest extent practicable.

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Appendix A

Overview of GHG Emissions and Climate Change

Overview of GHG Emissions and Climate Change

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey other changes in addition to rising temperatures. The baseline against which these changes are measured originates from historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate changes continuously, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed substantial acceleration in the rate of warming during the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed that the rise and continued growth of atmospheric CO₂ concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report from 2021. Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO₂ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019.³² Furthermore, since the late 1700s, estimated concentrations of CO₂, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity.³³ Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Further, in 2023, Earth's average land and ocean surface temperature was 2.12 degrees F (1.18 degrees C) above the 20th century — the highest global temperature among all years in National Oceanic and Atmospheric Administration's (NOAA) 1850-2023 climate record and the 10 warmest years on record have all occurred in the past decade.³⁴

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of

³² IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

³³ United States Environmental Protection Agency (U.S. EPA). 2021. Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases. Last updated April 2021. <https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases>

³⁴ NOAA. January 12, 2024. 2023 was the world's warmest year on record, by far. [https://www.noaa.gov/news/2023-was-worlds-warmest-year-on-record-by-far#:~:text=Earth's%20average%20land%20and%20ocean,0.15%20of%20a%20degree%20C\).](https://www.noaa.gov/news/2023-was-worlds-warmest-year-on-record-by-far#:~:text=Earth's%20average%20land%20and%20ocean,0.15%20of%20a%20degree%20C).)

GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are usually by-products of fossil fuel combustion, and CH₄ results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆.³⁵

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO₂e), which is the amount of GHG emissions emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than CO₂ on a molecule per molecule basis.³⁶

The accumulation of GHGs in the atmosphere regulates the Earth’s temperature. Without the natural heat-trapping effect of GHGs, the earth’s surface would be about 33 degrees Celsius (°C) cooler.³⁷ GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

Greenhouse Gas Emissions Inventories

Global Emissions Inventory

Worldwide anthropogenic emissions of GHGs were approximately 54,593 million metric tons (MMT) of CO₂e in 2021.³⁸ Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 67 percent of total emissions in 2021.³⁹ Of anthropogenic GHGs, CO₂ was the most abundant, accounting for about 75 percent of total 2021 emissions. Methane emissions accounted for 19 percent of the 2021 total, while N₂O accounted for 9 percent.⁴⁰

United States Emissions Inventory

Total U.S. GHG emissions were 6,340 MMT of CO₂e in 2021. Emissions increased by 6 percent from 2020 to 2021 (after accounting for sequestration from the land sector); since 1990, total U.S. emissions have increased by an average annual rate of 0.06 percent for a total increase of 1.8 percent between 1990 and 2019. The increase in total greenhouse gas emissions was driven largely

³⁵ U.S. EPA. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. April 2021. <https://www.epa.gov/system/files/documents/2022-02/us-ghg-inventory-2022-main-text.pdf>

³⁶ IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp. https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

³⁷ World Meteorological Organization. 2020. “Greenhouse Gases.” <https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse%20gases>

³⁸ Our World in Data. 2020. Greenhouse Gas Emissions. <https://ourworldindata.org/greenhouse-gas-emissions>

³⁹ Future Earth. 2021. The Global Carbon Project. <https://globalcarbonatlas.org/emissions/carbon-emissions/>

⁴⁰ Our World in Data. 2020. Greenhouse Gas Emissions. <https://ourworldindata.org/greenhouse-gas-emissions>

by an increase in CO₂ emissions from fossil fuel combustion. In 2021, CO₂ emissions from fossil fuel combustion increased by 7 percent relative to the previous year. This increase in fossil fuel consumption emissions was due primarily to economic activity rebounding after the height of the COVID-19 pandemic. In 2021, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of nationwide GHG emissions while the commercial and residential end-use sectors accounted 30 percent of nationwide GHG emissions, respectively. Agriculture accounted for 11 percent of nationwide GHG emissions. Electricity emissions were distributed among the various sectors.⁴¹

California Emissions Inventory

Based on the California Air Resources Board (CARB) California GHG Inventory for 2000-2021, California produced 381.3 MMT CO₂e in 2021.⁴² The largest single source of GHG in California is transportation, contributing 39 percent of the State's total GHG emissions. Industrial sources are the second-largest source of the State's GHG emissions, contributing 22 percent of the State's GHG emissions.⁴³ The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2014, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO₂e.⁴⁴ The annual 2030 Statewide target emissions level is 260 MMT of CO₂e.⁴⁵

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past four decades has been warmer than all the previous decades in the instrumental record and the decade from 2011 through 2020 has been the warmest. The observed global mean surface temperature (GMST) for the decade from 2011 to 2020 was approximately 1.09°C (0.95°C to 1.20°C) higher than the average GMST over the period from 1850 to 1900. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, the latest IPCC report states that “human-induced climate change is already affecting many weather and climate

⁴¹ U.S. EPA. 2023. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021. April 2023. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021>

⁴² California Air Resources Board (CARB). 2021. “Current California Greenhouse Gas Emission Inventory – 2000-2021 GHG Inventory (2023 Edition). <https://ww2.arb.ca.gov/ghg-inventory-data>

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

extremes in every region across the globe.”⁴⁶ These climate change impacts include sea level rise, increased weather extremes, and substantial ice loss in the Arctic over the past three decades.

According to *California’s Fourth Climate Change Assessment*, Statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years.⁴⁷ In addition to Statewide projections, *California’s Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the State and regionally-specific climate change case studies.⁴⁸ However, while there is growing scientific consensus about the possible effects of climate change at a global and Statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding.⁴⁹ Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year.^{50 51} Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880.⁵² Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 11 to 21.5 inches by 2100 under the lowest emissions scenario and a rise of 25 to 40 inches by 2100 under the very high emissions scenario.⁵³

A rise in sea levels could erode 31 to 67 percent of California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California’s water supply due to saltwater intrusion and induce groundwater flooding

⁴⁶ IPCC. 2021. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

⁴⁷ California, State of. 2018. *California’s Fourth Climate Change Assessment Statewide Summary Report*. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ World Meteorological Organization. 2013. *A summary of current and climate change findings and figures: a WMO information note*. March 2013. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU

⁵¹ National Aeronautics and Space Administration. 2020. “Global Climate Change – Vital Signs of the Planet – Sea Level.” <https://climate.nasa.gov/vital-signs/sea-level/>

⁵² Ibid.

⁵³ IPCC. 2021. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

and/or exposure of buried infrastructure.⁵⁴ Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 4.4 to 5.8°F by mid-century (2040 – 2069) and by 5.6 to 8.8°F by late century (2070 – 2100).⁵⁵ Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the State has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains.⁵⁶ If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them.⁵⁷

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in Statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common.⁵⁸ This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts.⁵⁹ The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack.⁶⁰ Projections indicate that average spring

⁵⁴ California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf

⁵⁸ California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. <https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf>

⁵⁹ California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

⁶⁰ Ibid.

snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050.⁶¹

Agriculture

California has a roughly \$49 billion annual agricultural industry that produces nearly a third of the country's vegetables and over half of the country's fruits and nuts.⁶² Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks.⁶³ Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality.⁶⁴

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on global and local scales. Soil moisture is likely to decline in many regions as a result of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage.^{65 66}

⁶¹ Ibid.

⁶² California Department of Food and Agriculture. 2021. "California Agricultural Statistics Review." https://www.cdfa.ca.gov/Statistics/PDFs/2020_Ag_Stats_Review.pdf

⁶³ California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

⁶⁴ California Climate Change Center (CCCC). 2006. Climate Scenarios for California.

⁶⁵ Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.

⁶⁶ California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

Appendix B

CEQA GHG Threshold Calculations

1. BAU Forecast Summary					
Forecast Scenario	Sector	Annual 2030 GHG Emissions (MT CO2e)			
		Existing (2017)	New (2030-2017)	Total (2030)	
BAU	Residential Energy	21,878	2,829	24,707	Residential
	Nonresidential Energy	11,210	2,415	13,624	Nonresidential
	Passenger Vehicles	18,913	1,927	20,840	Residential/Nonresidential
	Commercial Vehicles	10,868	1,316	12,184	Nonresidential
	Public Transit	701	50	752	Residential/Nonresidential
	Offroad Equipment	5,236	3,063	8,299	Residential/Nonresidential
	Water & Wastewater	165	31	196	Residential/Nonresidential
	Solid Waste	3,300	612	3,912	Residential/Nonresidential
	Consistency Check	-	-	-	
2. Demographics Forecast Summary					
Category	Sector	Annual 2030 Demographics			
		Existing (2017)	New (2030-2017)	Total (2030)	
Demographics	Residents	19,663	3,447	23,110	
	Jobs	7,970	1,674	9,645	
	Service Population	27,633	5,122	32,755	
3. Emissions Savings Summary - Legislative savings + Measure savings					
Category	Measure	2030 GHG Emissions (MT CO2e)			
		Residential	Nonresidential	Residential/ Nonresidential	
State Legislation/Existing City Programs	Transportation Legislation	-	2,111	4,928	
	California Green Building Code (Title 24)	417	207	-	
	California RPS (SB 100)	1,439	3,056	84	
	MCE	1,764	1,538	70	
	Pass an electrification ordinance for new construction	992	517	-	
	Existing building electrification	5,756	1,466	-	
	End of flow ordinance	-	-	-	

City of Pinole
CEQA GHG Emissions Thresholds and Guidance

GHG Reduction Measures	95% Community Enrollment in MCE Deep Green	-	-	3,282	
	Implement programs for active transportation that reduce VMT	-	-	107	
	Implement programs for public transportation that reduce VMT	-	-	327	
	Increase Passenger EV Adoption	-	-	3,363	
	Increase Commercial EV Adoption	-	1,750	-	
	Increase Bus EV Adoption	-	-	46	
	Decarbonize Offroad Equipment	-	-	664	
	Achieve or exceed organics diversion requirements of SB 1383	-	-	2,934	
	Achieve compost procurement requirements of SB 1383	-	-	425	
	Plant more trees to sequester carbon (number of trees planted by target year)	-	-	-	
					Consistency
					Check (State Leg) -
					Consistency
					Check (MCE) -
					Consistency
					Check (Measures) -
4. Allocate savings between existing/new and residential/nonresidential					
* Savings are allocated to existing and new using the existing, new, and total demographics breakdown in section 2 and based on the logic in the Allocation column below					
* Residential + Nonresidential savings are allocated to residential and nonresidential separately the population, job, and service population demographics breakdown in section 2					
Category	Allocation between existing and new	2030 Emissions (MT CO2e)			
		Existing		New	
		Residential	Nonresidential	Residential	Nonresidential
BAU Forecast					
BAU Forecast	See F4:F11	42,027	30,245	6,654	5,588
Legislative Reductions/Existing City Programs					
Transportation Legislation	Both	2,958	2,944	519	618
California Green Building Code (Title 24)	New Only	-	-	417	207
California RPS (SB 100)	Both	1,274	2,546	223	535
MCE	Both	1,542	1,288	270	271
Measure GHG Reductions					
Pass an electrification ordinance for new construction	New Only	-	-	992	517
Existing building electrification	Existing Only	5,756	1,466	-	-

End of flow ordinance	Both	-	-	-	-
95% Community Enrollment in MCE Deep Green	Both	1,970	799	345	168
Implement programs for active transportation that reduce VMT	Both	64	26	11	5
Implement programs for public transportation that reduce VMT	Both	196	80	34	17
Increase Passenger EV Adoption	Both	2,019	818	354	172
Increase Commercial EV Adoption	Both	-	1,446	-	304
Increase Bus EV Adoption	Both	27	11	5	2
Decarbonize Offroad Equipment	Both	399	162	70	34
Achieve or exceed organics diversion requirements of SB 1383	Both	1,761	714	309	150
Achieve compost procurement requirements of SB 1383	Both	255	104	45	22
Plant more trees to sequester carbon (number of trees planted by target year)	Both	-	-	-	-
Measure-Adjusted Forecast					
Measure-Adjusted Forecast	BAU Forecast - Leg Reductions/City Programs - Measure Reductions	23,804	17,843	3,059	2,567
Percentage reductions in each category		22%	13%	22%	17%
5. 2030 GHG Thresholds					
Category	2030 New Growth GHG Threshold	"Existing GHG Thresholds"	2030 Total Population - Per Capita Threshold		
New Residential (per resident)	0.89	1.21	1.16		
New Nonresidential (per job)	1.53	2.24	2.12		
New Mixed-Use (per service person)	1.10	1.51	1.44		
6. Summary Table					
	Existing	New Residential	New Nonresidential	Total	
BAU Forecast	72,273	6,654	5,588	84,515	
Legislation/MCE	12,552	1,430	1,631	15,613	
CAAP Building Energy Measures	9,991	1,337	684	12,013	
CAAP Transportation Measures	5,248	474	534	6,257	
CAAP Waste Measures	2,834	354	172	3,359	
Emissions Reductions from BAU	30,625	3,595	3,021	37,241	
Remaining Total GHG Emissions	41,648	3,059	2,567	47,273	
					-

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Appendix C

United States Green Building Council Building Area per Employee by Business Type Rates⁶⁷

⁶⁷ United States Green Building Council. 2008. "Building Area per Employee by Business Type." May 13, 2008.

BUILDING AREA PER EMPLOYEE BY BUSINESS TYPE

Land-Use	ITE		USDOE Sq.Ft./ Employee	SANDAG Sq.Ft./ Employee
	Land-Use Code	Sq.Ft./ Employee		
Commercial Airport	21	224		
General Aviation Airport	22	392		
Truck Terminal	30	427		
General Light Industrial	110	463		
Heavy Industrial	120	549		
Industrial Park	130	500		
Manufacturing	140	535		
Warehousing	150	781	2114	
Elementary School	520	1250	1131	
High School	530	1587		
Hospital	610	372	486	
General Office - Suburbs	710	304		
Corporate HQ - Suburbs	714	260		
Single Tenant Office	715	295		
Medical-Dental Building	720	207		
U.S. Post Office	732	230		
Office Park	750	278		
Research & Development Center	760	405		
Business Park	770	332		249
Building Material - Lumber Store	812	806		
Specialty Retail Store	814	549		
Discount Store	815	654		
Hardware Store	816	1042		
Nursery-Garden Center	817	529		
Quality Restaurant (Sit Down)	831	134		
High Turnover (Sit Down)	832	100		
Fast Food w/o drive-thru	833	70		
Fast Food w/ drive-thru	834	92		
Grocery			938	
Lodging			1124	917
Bank				317
Office under 100,000 sq.ft.				228
Office over 100,000 sq.ft.				221
Neighborhood Retail				588
Community Retail				383

Sources:

ITE -- Institute of Transportation Engineers

USDOE -- U.S. Department of Energy

SANDAG -- San Diego Assn of Governments

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CITY COUNCIL REPORT

12.A.

DATE: MAY 7, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: KAPIL AMIN, SUSTAINABILITY FELLOW
LILLY WHALEN, COMMUNITY DEVELOPMENT DIRECTOR
SUBJECT: INTRODUCTION AND REVIEW OF THE PUBLIC REVIEW DRAFT CLIMATE ACTION AND ADAPTATION PLAN

RECOMMENDATION

Receive a presentation and provide direction

BACKGROUND

On October 19, 2021, the City Council adopted Resolution No. 2021-93, which declared a climate emergency, directed staff to complete a GHG emissions inventory, and directed staff to prepare a Climate Action and Adaptation Plan (CAAP) that includes GHG emission reduction goals that align with the State's GHG emission reduction goals of Senate Bill 32 and Executive Order B-55-18. Starting November 2021 through May 2024, **Table 1** below provides a month-by-month summary of activities in CAAP development.

Table 1: Month by Month Summary of CAAP Development

Year	Month	Activities
2021	November	• Staff solicited and negotiated informal quotes from three consulting firms • City Council approved a mid-year budget adjustment in the amount of \$160,000 to fund the GHG inventory and CAP
	December	• Staff reviewed proposals from three firms to conduct the GHG Inventory • Staff selected and executed a contract with CSG Consultants, with Rincon Consultants as a subconsultant, to perform the GHG Inventory at a cost of \$28,771
2022	January	• On January 13 City staff and the CSG/Rincon team met for the kickoff of the GHG inventory project. • On January 27 City staff and the CSG/Rincon team met to further discuss data for the Community Inventory and the Municipal Inventory with a focus on the data related to energy, solid waste,

water/wastewater, and employee commute patterns.

February

- On February 3 City staff circulated an employee commute survey to all Pinole City employees.
- On February 8 City staff and the CSG/Rincon team met to discuss draft findings, data sources, project status, schedule, and next steps.
- On February 18 staff released a Request for Proposals (RFP) to develop the [CAP](#).
- On February 23 staff and the CSG/Rincon team increased the initial inventory cost of \$28,771 by \$3,256 in order to include the most accurate data and calculations for Climate Action planning, which increased the total contract cost to \$32,027, with a total of \$127,973 budgeted funds available to support development of the CAP.
- Throughout the month, City staff and the CSG/Rincon team continued to communicate regularly regarding data sources to keep the project on schedule.

March

- On March 10 City staff and the CSG/Rincon team met to discuss the draft community emissions inventory and review the upcoming work tasks including the municipal inventory and forecast setting, which are expected in draft form in early April.
- On March 11 the City received a proposal from Rincon/CSG for CAP development.

April

- In April the community GHG emissions inventory, municipal GHG inventory and GHG emissions forecasts and provisional target report were completed by the CSG/Rincon Team, wrapping up the GHG inventory task item (total amount of contract: \$32,027).
- In April Staff negotiated CAAP development project details with Rincon and prepared a City Council staff report for contract approval.

May

- On May 3, 2022 the City Council approved contracting with Rincon and CSG Consultants for the development of the Climate Action and Adaptation Plan (total contract amount: \$184,808).
- Additionally, the Council authorized a partnership with Strategic Energy Innovations Inc., to participate in the Climate Corps program and receive a Sustainability Fellow for 10 months to support the CAAP development (\$48,500).

June

- During the month of June City staff and Rincon Inc. negotiated contracting details.

- On June 27, 2022 the contract with Rincon for development of the CAAP was executed.

July

- On July 19, the City kicked off the CAAP process with a coordination meeting between Community Development and consultants Rincon and CSG.
- Development of the outreach and engagement plan began.
- Connection was made between the Rincon/CSG team and the consultant team coordinating the Housing, Safety and Health & Environmental Justice Element for cross coordination efforts.
- Contract documents were finalized between the City and Strategic Energy Innovations Inc., (SEI) Climate Corps so that Pinole could host a Sustainability Fellow.

August

- Interviews with SEI Climate Corps candidates for the Sustainability Fellow position were conducted by City staff and a Fellow was selected to begin work in September 2022.
- A draft of the CAAP outline was developed.
- An evaluation of existing sustainability-related programs in the City began.

September

- Sustainability Fellow Kapil Amin began a 10-month assignment with Pinole on September 8, assisting with development of the CAAP in addition to other high priority sustainability initiatives.
- A [dedicated project website](#) was developed.
- Online sign-up link for interested community members to receive CAAP-related information (notification about upcoming community events, surveys or other participation options) was established and promoted.
- Community engagement survey was drafted.
- Initial community outreach materials were prepared.
- The public engaged with Sustainability Fellow regarding the CAAP at the Coastal Clean Up event.

October

- Began preparing a scenario planning and reduction analysis quantification tool and continued to draft GHG emissions reduction measures
- Began developing a community outreach plan and prepared outreach materials
- Reviewed and refined the community survey drafted in the first quarter of FY 2022/23
- Began to prepare a list of adaptation and waste measures
- Engaged with the public at the Dumpster Day event

- Updated the CAAP website

November

- Continued preparing provisional GHG emissions reduction and adaptation measures
- Finalized the community survey and prepared for survey launch
- Drafted and revised outreach materials such as a city-wide postcard and flyer
- Reviewed the draft Vulnerability Assessment prepared by the consultant team coordinating the Housing, Safety and Health & Environmental Justice Element
- Updated the CAAP website

December

- Continued drafting provisional greenhouse gas emission reduction and adaptation measures
- Finalized outreach strategy and mapping community outreach events
- Prepared and refined outreach materials such as the CAAP logo, postcard, PCTV materials
- Launched the community survey through many channels, including the Administrative Report, social media, a postcard, PCTV and the website
- Preliminarily reviewing survey results
- Reviewing the draft Vulnerability Assessment and summarizing necessary updates
- Updated the CAAP website

2023 January

- Prepared for first CAAP Workshop/Open House on January 26 by:
 - Designing and ordering CAAP seed paper pins for swag gifts, CAAP banners for publicity, CAAP tablecloth made from sustainable materials, custom print visioning, voting, Pinole climate information and schedule boards
 - Preparing and recording CAAP Open House promo video for social media, background/climate information video for Open House attendees/website
 - Designing and disseminating CAAP flyer with survey to CAAP email list, physical postings, social media, administrative report in addition to CAAP Open House Guide
- Hosted the first CAAP Hybrid Open House on January 26. Agency partners at the event included EBMUD, Republic Services, BayREN, 511 Contra Costa and MCE. Vegan food and drinks were provided, and there was a children's upcycling craft activity in addition to interactive Visioning and Voting boards
- Prepared preliminary greenhouse gas and adaptation measures

- Updated the CAAP website

February

- Extended the CAAP survey to February 23
- Created a CAAP Open House recap for social media, website and email list along with a scrapbook video with survey extension update
- Arranged a CAAP Open House City Hall display with surveys, postcards, seed paper pins, Visioning and Voting Board, schedule poster, and Pinole's climate info poster and communicated via normal communication channels about the display
- Conducted stakeholder interview polls to find best times for community focus group, civic focus group, and business groups
- Conducted outreach at the Pinole Farmer's Market
- Coordinated with Administration Department for Earth Month planning to align with CAAP sectors
- Closed the survey
- Began drafting CAAP document

March

- Conducted outreach at the Pinole Farmer's Market
- Gave CAAP presentation to Pinole Valley High School Earth Team
- Conducted stakeholder focus group interviews on March 20, 21 and 23
- Coordinated with Administration Department for Earth Month planning to align with CAAP sectors
- Reviewed survey responses from the community to understand perspectives and desires
- Updated preliminary greenhouse gas and adaptation measures based on feedback received from the community

April

- Reviewing, revision, and development of preliminary CAAP draft measures
- Initial planning of second community workshop
- Earth Month activities, promotion, education, and rebate in alignment with CAAP sectors
- Publicity of CAAP notifications signup and public review workshop at City of Pinole's Earth Walk
- Publicity of CAAP notifications signup and public review workshop at Farmer's Market

May

- Revision and development of CAAP measures
- Initial planning of public review workshop
- Key findings of CAAP survey results shared to social media and assembled into a future press release

- Publicity of CAAP notifications signup and public review workshop at Shoreline Festival in the City of Crockett

June

- Revision and development of CAAP measures
- Initial planning of public review workshop
- Publicity of CAAP notifications signup and public review workshop at City of Pinole Car Show
- Initial coordination with the County for a presentation/briefing to City Staff on CAAP background, how a CAAP may affect their duties and information to address public inquiries

July

- Review and revision of draft CAAP
- Coordination with County on CAAP presentation to City Staff

August

- Refinement of draft CAAP for Staff review
- Internal staff meetings with key personnel in each Department to review and refine preliminary greenhouse gas and adaptation measures and action in advance of public review
- County presentation to City Staff on background of CAAP and future policy changes

September

- Finalize the draft CAAP measures and actions for public review
- Finalize community workshop design and create outreach materials
- Promote community workshop

October

- Community workshop planning and materials preparation
- In-person and digital promotion of community workshop
- Hosted community workshops on October 26 in multiple locations in the City (Library, Senior Center, City Hall), in addition to online-options
- CAAP website updates

November

- Two digital versions of carbon bucks game made available
- Publicity of digital versions of community workshop
- Preparation of public review draft

December

- Review and revision of public review draft chapters
- Presentation at County Sustainability Exchange on Climate Action Planning

2024 January

- Review and revision of public review draft
- Tribal consultation requests sent by letter and email
- CAAP partner confirmations and feedback collection by email/meetings

February

- Review and revision of public review draft
- CAAP partner confirmations and feedback collection by email/meetings

March

- Review and revision of public review draft
- CAAP partner confirmations and feedback collection by email/meetings

April

- Review and revision of public review draft
- Tribal consultation with Lisjan Nation
- CAAP partner confirmations and feedback collection by email/meetings
- Created a new [project page on Pinole Speaks](#) to collect public input on public review draft of CAAP
- Public review draft of CAAP released April 19
- Publicity of public review draft CAAP at City of Pinole's Earth Walk

May

- Public meeting to review public review draft - May 7

REVIEW AND ANALYSIS

The [draft CAAP](#), released for public review on April 19, contains programs committed to reducing greenhouse gas (GHG) emissions, preparing the community for the impacts of climate change, improving the quality of life, and enhancing economic vitality. Specifically, Pinole's CAAP aims to support the City's "fair share" towards reducing greenhouse gas (GHG) emissions. It is designed to help Pinole achieve California's goals outlined in Senate Bill (SB) 32, which requires the state to reduce GHG emissions 40 percent below 1990 levels, as well as make substantial progress towards carbon neutrality in support of Assembly Bill (AB) 1279, which requires California to achieve "net zero greenhouse gas emissions" as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. The CAAP is consistent with the California Environmental Quality Act (CEQA) requirements outlined in Section 15183.5(b), includes a framework for implementation, monitoring emission reduction activities, and further promotes community resilience and adaptation.

The CAAP further serves as a Qualified Climate Action Plan through which the City can streamline the environmental review process of GHG emissions generated from future development projects. This can save time and money while simultaneously spurring emissions

reductions and promoting sustainable economic growth and prosperity.

It should be noted that further CEQA (California Environmental Quality Act) documentation is forthcoming, including Appendix C (Measure Substantial Evidence), Appendix D: (CEQA Documentation) and Appendix E (CEQA GHG Emissions Thresholds and Guidance). This documentation will be published for public review following public review of the CAAP document, and prior to City Council taking formal action to adopt the CAAP.

The public review period for the CAAP will run from April 19 through May 20. The purpose of this item on May 7 is to provide an opportunity for Staff and the City's consultant, Rincon, to present the CAAP to the community, solicit feedback, and for the Council to provide any direction. Staff will then incorporate feedback from the community and the Council, and release the final CAAP including all environmental documentation, for public review. Depending on the level of feedback and direction provided, Staff will return in June or July for Council formal adoption of the CAAP and CEQA certification.

FISCAL IMPACT

There is no fiscal impact associated with the introduction and review of the public review draft CAAP. Individual programs in the CAAP will each have a fiscal impact, which will be alleviated to a certain extent through actively seeking grant funding to support both administrative and individual program costs. As indicated in the CAAP, additional staffing is required to carry out the actions in the CAAP.

ATTACHMENTS

- A. Public Review Draft CAAP

Comment/Feedback Received	Update Made
SW-2j – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
CAR-1f – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
CAR-2i – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
FL-1e – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
WF-1h – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
Question related to battery recycling	Updated Action TR-4k to read: Develop outreach and education materials and distribute them to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health, and safety benefits of ZEVs. Provide information on available funding opportunities and the City’s streamlined permitting process. <u>Additionally, as part of this process, include information on EV battery recycling to dispel myths, ease disposal concerns, and promote sustainable practices grounded in science.</u>
SW-5 – missing phasing	Actions updated to reflect Phase 1
Battery revolving fund recommended	Action BE-2o added, which states: <u>Explore the development of a revolving fund to integrate wall batteries for energy storage with Pinole’s Energy Enhancement Rebate Program, aiming to enhance energy efficiency, sustainability, and financial viability for a more resilient energy future.</u>
TR-1d: change to “partner with entities”	Updated Action TR-1d to read: Partner with an entity <u>entities</u> such as the Metropolitan Transportation Commission, 511 Contra Costa, or the Contra Costa Transportation Authority to expand existing rebate programs to help families living in Pinole on low- and fixed-incomes purchase alternative modes of transportation (e.g., bicycles, scooters, rollerblades, skates, skateboards) and appropriate safety gear.
BE-3d: there was confusion on wording phase 1, phase 2, phase 3, and phase 4 of the building performance standard program with the phasing of the overall plan	Updated action BE-3d to read: Develop a building performance standard program to meet a specific level of energy use per square foot for all commercial and industrial buildings over 20,000 square feet. Implementation and compliance support, including resources and tools which will be implemented through four phases <u>stages</u> : 1. Pre-development phase – Phase <u>Stage</u> 1 – Staff to receive technical assistance from the Building Technologies Office in the Federal Office of Energy Efficiency and Renewable Energy (EERE). Per the EERE, technical assistance may take the form of:

	▪ Building stock analyses, including analysis of energy and emission impacts associated with building performance standard adoption ▪ Performance target-setting and trajectories ▪ Measure and technology prioritization and packaging ▪ Cost-effectiveness analyses 2. Data collection phase – <u>Phase Stage 2</u> – All commercial and industrial building owners with floor area over 20,000 square feet report electricity and natural gas data through energy star portfolio manager 3. Retro commissioning phase – <u>Phase Stage 3</u> – All covered building owners complete a retro commissioning process to identify and correct system inefficiencies while identifying opportunities for electrification and downsizing of oversized equipment. 4. GHG Performance Standard – <u>Phase Stage 4</u> – Implement a building performance standard that requires buildings to meet a specific GHG performance level
TR-1c – shift to Phase 1 from Phase 2	Phasing updated and actions re-numbered sequentially, where necessary
The bandwidth study has been completed	Updated measure CR-1g to read: Based on the findings and recommendation of the broadband feasibility study (currently in progress), a subsidy or grant program may be developed to improve existing infrastructure of multi-family units (i.e., upgrade internal wiring etc.) to update policies to increase Pinole residents' work-from-home rate, including incorporating work-from-home strategies into the Transportation Demand Management standards of Action TR-3a.
TR-1a - studies have been complete and the draft ATP is coming soon	This can be an early win – do not recommend updating the language to instead track the progress for next steps
In SW-2a and following mentions: the Sustainable Foodware Ordinance is officially named “Single-use Plastic Foodware and Bag Reduction”	Updated Action SW-2a to read: Adopt a Zero Waste Policy and Zero Waste Strategic Plan to guide and detail methods to meet the reduction target of 35% by 2030 and 90% by 2045. Include in the Zero Waste Strategic Plan, the milestones of the Sustainable Foodware <u>Single-use Plastic Foodware and Bag Reduction Ordinance</u> to phase in the reduction, and subsequent elimination of, single-use plastic foodware by food facilities.
BE-3c: Change to “Pinole Energy Enhance Rebate Program”	Evaluate the success of the pilot Energy Efficiency Program <u>Pinole Energy Enhancement Rebate Program</u> which offers for calendar year 2024 additional rebates to Pinole residents for energy efficiency improvements stacked on top of federal, state, or regional rebates or discounts. Work with Contra Costa County

	Department of Conservation and Development to restructure the pilot program as needed. Seek annual grant funding sources to sustain and support the program through.
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CITY COUNCIL REPORT

12.A.

DATE: AUGUST 20, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: SANJAY MISHRA, PUBLIC WORKS DIRECTOR
SUBJECT: RECEIVE A REPORT ON ENERGY CONSERVATION, GENERATION AND STORAGE ASSESSMENT (CIP PROJECT # IN2201)

RECOMMENDATION

Staff recommends that the City Council adopt a resolution (Attachment A) accepting the report (Attachment B) by Tetra Tech for the Energy Conservation, Generation, and Storage Assessment, CIP Project # IN2201.

BACKGROUND

The City of Pinole provides services from numerous City facilities and through a variety of City infrastructure, including roads, parks, and streetlights. The City has invested in some energy conservation and generation measures over the past 10 years. These include solar arrays, EV charging stations, and streetlight improvements. The City spent approximately \$1.41million on electric and natural gas consumption in City facilities during FY 2022-23 and \$1.66million during the FY 2023-24.

During FY 2022-23 the City prioritized a project to identify steps to further conserve, generate, and store energy in City facilities and infrastructure. Through the Energy Conservation, Generation and Storage Assessment, the City sought to achieve the following outcomes:

- An assessment of the City's energy use in its facilities and infrastructure.
- Identification of cost effective and environmentally responsible investments in energy conservation, generation, and storage.
- Identification of investments to make the City more resilient during power outages, natural disasters, and from the impacts of climate change.
- A recommended system(s) to track and provide reports on savings that result from investment in energy conservation and generation at City facilities.

On June 6, 2023, City staff released a Request for Proposals (RFP) soliciting consultant proposals to perform the energy assessment. Five proposals were submitted. At its meeting on September 5, 2023, the City Council authorized the City Manager to enter into an agreement with Tetra Tech to complete the assessment.

The scope for this project included the following:

1. Energy Efficiency and Resiliency Trends Review
2. Conditions Assessment

3. Opportunities Analysis
4. Recommendations

REVIEW AND ANALYSIS

The Final Energy Conservation, Generation, and Storage Assessment report has been finalized and is attached to this staff report. The Tetra Tech project manager will be present at the City Council meeting to summarize the report's findings and respond to City Council questions.

Tetra Tech received building information from staff and conducted site visits in November and December of 2023. The final report includes: descriptions of building operations, utility usage, deficiency assessments and recommendations. Tetra Tech performed financial analyses of installing new renewable energy generation systems and battery storage at the Senior Center and Wastewater Treatment Plant (WWTP). Tetra Tech also evaluated the effect of installing electric vehicle (EV) charging stations at Pinole facilities.

A total of 25 energy conservation measures (ECMs) are recommended in the report. Table ES.1 presents a summary of the recommended ECMs and summarizes the cost, savings, and simple payback period for the ECMs. Detailed descriptions of each of the recommended ECMs are provided in Section C. Potential funding sources (e.g. grants) are also identified.

Microgrid analyses were performed on two facilities. At the Senior Center, Tetra Tech reviewed a proposal to add a photovoltaic (PV) panel array and EV chargers in the parking lot, evaluated the additional load the EV chargers would place on the building, calculated the amount of additional PV that would be needed to offset the EV load, and provided options for battery storage capacity needed to accomplish energy resilience goals. At the WWTP, Tetra Tech evaluated the amount of PV that could be installed at the facility and assessed the effect of PV energy production and load shifting using a battery energy storage system (BESS) on the demand charges seen by the plant.

Implementation of findings

Staff has already begun implementing certain measures recommended in the report (e.g. pool covers at the swimming center, completed installation of a Variable Frequency Drive (VFD) for the pool pump etc.) in which budget authority is in place.

The report identifies grant sources that could provide funding for certain recommended improvements. Staff will be working with the City's grant writer to prioritize and pursue grant opportunities for energy investments recommended in the report.

Finally, it is important that significant investments in energy enhancements align with the future Facilities and Real Estate Master Plan. The development of this master plan was recently deferred due to immediate budget considerations. Once funded, the master plan will be informed by, and incorporate, recommendations in the Tetra Tech report.

FISCAL IMPACT

There is no fiscal impact associated with accepting the Energy Conservation, Generation, and Storage Assessment report for the City facilities.

ATTACHMENTS

- A. Resolution
- B. Energy Conservation, Generation, and Storage Assessment Report

RESOLUTION NO. 2024 – xx

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PINOLE, COUNTY OF CONTRA COSTA COUNTY, STATE OF CALIFORNIA, ACCEPTING THE REPORT FOR ENERGY CONSERVATION, GENERATION, AND STORAGE ASSESSMENT (CIP PROJECT # IN2201).

WHEREAS, the City of Pinole (“City”) recognizes that energy efficiency and resiliency of City facilities is important to provide effective City services; and

WHEREAS, the City wanted to better understand steps that it could take to further conserve, generate, and store energy in City facilities and infrastructure; and

WHEREAS, the City was also interested in identifying investments to make the City more resilient during power outages, natural disasters, and from the impacts of climate change; and

WHEREAS, the City has adopted the FY 2023/24 through FY 2027/28 Capital Improvement Plan (CIP) which includes an energy conservation, generation, and storage assessment (CIP Project # IN2201) as a funded project; and

WHEREAS, the City awarded the professional services contract to Tetra Tech Inc. on September 5th, 2023; and

WHEREAS, the Tetra Tech Energy Conservation, Generation and Storage Assessment was included in the June 18, 2024 City Council agenda packet; and

WHEREAS, a Tetra Tech representative presented a summary of the findings of the assessment during the August 20, 2024 City Council meeting;

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Pinole:

1. Accepts the Energy Conservation, Generation and Storage Assessment completed by Tetra Tech.
2. Directs staff to:
 - A. Implement recommendations in the Assessment in which budget authority exists.
 - B. Work with the City’s grant writer to identify funding sources that will support implementation of additional Assessment recommendations.
 - C. Consider the Assessment recommendations in the future development of the City of Pinole Facilities and Real Estate Master Plan.

PASSED AND ADOPTED at a regular meeting of the Pinole City Council held on the 20th day of August 2024 by the following vote:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

I hereby certify that the foregoing resolution was regularly introduced, passed, and adopted on the 20th day of August 2024.

Heather Bell
City Clerk

City of Pinole

ENERGY CONSERVATION, GENERATION, AND STORAGE

ASSESSMENT



April 26, 2024



TETRA TECH

Table of Contents

Executive Summary	2
A. Energy Efficiency and Resiliency Trends Review.....	4
B. Facility Overview.....	8
B.1 Senior Center.....	8
B.2 City Hall.....	11
B.3 Public Safety Building	14
B.4 Wastewater Treatment Plant.....	17
B.5 Swim Center	21
B.6 Youth Center.....	24
B.7 Post Office	26
B.8 Fire Station #74	28
B.9 Tiny Tots.....	30
B.10 Caretaker's Building.....	31
B.11 Faria House	31
B.12 Pinole Valley Park.....	31
B.13 Fernandez Park	32
B.14 Parking Lot Lighting	33
B.15 Streetlighting	34
C. Measure Descriptions.....	35
C.1 Senior Center Microgrid Design.....	35
C.2 Wastewater Treatment Plant Microgrid	44
C.3 Electric Vehicle Charging Stations.....	54
C.4 Energy Dashboard and Demand Management.....	57
C.5 Rooftop Air Handler Replacement and Demand Control Ventilation	59
C.6 Duct Air Temperature and Hot Water Supply Temperature Reset	61
C.7 Zone Temperature Setback.....	63
C.8 Interior LED Retrofit	64
C.9 Interior Lighting Occupancy Controls	65
C.10 Boiler Replacement.....	66
C.11 Fire Station Garage Demand Control Ventilation and AHU Rehab.....	67
C.12 Exterior Lighting Photocell Controls	68
C.13 Boiler Insulation	69
C.14 Pool Pump VFD Controls.....	70
C.15 Pool Cover.....	71

C.16	Swim Center PV Repair	72
C.17	Ballpark Lighting.....	73
C.18	Streetlighting Utility Bill Update.....	74
D.	Funding Sources	75
D.1	Self-Generation Incentive Program (SGIP).....	75
D.2	MCE's Commercial Efficiency Market program	76
D.3	MCE's Peak FLEXMarket Program	77
D.4	Inflation Reduction Act (IRA) Direct Pay Tax Credits	78
D.5	Energy Conservation Assistance Act (ECAA) Low-Interest Loan Program	79
D.6	Climate Pollution Reduction Grant (CPRG)	80

Executive Summary

Tetra Tech was contracted by the City of Pinole to create an energy conservation and storage study for Pinole facilities. Tetra Tech developed an energy report that includes descriptions of building operations, utility usage, deficiency assessments, and recommendations. As part of this study, Tetra Tech performed financial analyses of installing new renewable energy generation systems and battery storage at the Senior Center and Wastewater Treatment Plant (WWTP). Tetra Tech also evaluated the effect of installing electric vehicle (EV) charging stations at Pinole facilities. The facility site visits were conducted in November and December of 2023.

A total of 25 energy conservation measures (ECMs) are recommended. Table ES.1 presents a summary of the recommended ECMs identified during the energy assessment and summarizes the cost, savings, and simple payback period for the ECMs. Detailed descriptions of each of the recommended ECMs are provided in Section C. Implementing all of the recommended ECMs, will result in an annual electrical savings of approximately 338,099 kilowatt-hours (kWh), annual natural gas savings of 17,618 therms, and annual cost savings of \$111,147. In total, the recommended measures will payback the cost of installation in 5.3 years (simple payback) and over the course of the life of the new equipment the savings will be 2.05 times larger than the cost (savings-to-investment ratio [SIR]).

Additionally, microgrid analysis was performed on two facilities. At the Senior Center, Tetra Tech reviewed a proposal to add a photovoltaic (PV) panel array and EV chargers in the parking lot, evaluated the additional load the EV chargers would place on the building, calculated the amount of additional PV that would be needed to offset the EV load, and provided options for battery storage capacity needed to accomplish energy resilience goals. At the WWTP, Tetra Tech evaluated the amount of PV that could be installed at the facility and assessed the effect of PV energy production and load shifting using a battery energy storage system (BESS) on the demand charges seen by the plant.

Table ES.1: Recommended Energy Measures

ECM	Building	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings MBtu/yr	Simple Payback (years)
ECM 1	City-wide	Building Control and Metering Dashboard and Demand Management	\$42,500	\$2,450	37.7	9.9
ECM 2	City Hall	Chambers Demand Control Ventilation	\$74,500	\$10,243	439.3	7.2
ECM 3	City Hall	Duct Air Temp and Hot Water Reset	\$40,800	\$9,595	438.4	4.3
ECM 4	City Hall	Zone Temperature Setback	\$15,900	\$4,256	174.2	3.7
ECM 5	City Hall	Interior LED Retrofit	\$39,800	\$4,416	106.3	9.0
ECM 6	City Hall	Interior Occupancy Sensor Retrofit	\$8,400	\$1,146	28.3	7.3
ECM 7	Public Safety	Boiler Replacement	\$71,800	\$5,157	277.3	13.9
ECM 8	Public Safety	Fire Station Garage AHU Rehab and DCV	\$40,400	\$7,638	339.6	5.3
ECM 9	Public Safety	Zone Temperature Setback	\$11,300	\$1,481	69.1	7.6
ECM 10	Public Safety	Interior LED Retrofit	\$44,400	\$6,995	171.3	6.3
ECM 11	Public Safety	Interior Occupancy Sensor Retrofit	\$9,700	\$1,049	25.9	9.3
ECM 12	Post Office	Interior LED Retrofit	\$19,700	\$2,903	70.6	6.8
ECM 13	Post Office	Interior Occupancy Sensor Retrofit	\$1,100	\$725	17.9	1.5
ECM 14	Post Office	Exterior Lighting Controls	\$300	\$109	2.7	2.8
ECM 15	WWTP	Boiler Insulation	\$6,200	\$1,582	92.5	3.9
ECM 16	Senior Center	High Efficiency RTU Replacement and DCV	\$89,500	\$9,486	322.9	9.4
ECM 17	Senior Center	Zone Temperature Setback Schedules	\$3,700	\$1,262	53.9	2.9
ECM 18	Youth Center	Zone Temperature Setback Schedules	\$7,100	\$814	20.1	8.7
ECM 19	Swim Center	Pool Pump VFD Controls	\$68,700	\$9,562	238.1	7.2
ECM 20	Swim Center	Pool Cover	\$28,500	\$4,921	346.6	5.8
ECM 21	Swim Center	PV Repair	\$8,400	\$2,464	51.6	3.4
ECM 22	Tiny Tots	Interior LED Retrofit	\$3,400	\$428	9.0	7.9
ECM 23	Fernandez Park	Ballpark LED Retrofit	\$29,800	\$507	14.2	58.7
ECM 24	Parking Lots	Photocell Repair	\$900	\$252	7.0	3.6
ECM 25	Streetlighting	Utility Bill Update	-	\$31,950		
Total			\$592,300	\$111,147	2,915	5.3

AHU Air handling unit
DCV Demand control ventilation
LED Light emitting diode
RTU Rooftop unit
VFD Variable frequency drive

A. Energy Efficiency and Resiliency Trends Review

Introduction

In anticipation of an Energy Conservation and Storage Study for the City of Pinole, Tetra Tech reviewed projects in the Bay Area from the last 5 years that had similar goals to Pinole's. The search revealed a handful of local municipalities that have gone through a similar process, including the City of Dublin, City of Milpitas, City of Palo Alto, and Solano County. Tetra Tech focused on the Cities of Dublin and Milpitas because both projects included converting community spaces into emergency power centers as Pinole is considering doing with its senior center. None of these municipalities operate a WWTP, so Tetra Tech looked for examples of WWTP microgrid projects in Northern California. This type of project has far less precedent, but the City of Santa Rosa did install a demonstration microgrid at their Laguna WWTP to control the power draw of the facility during peak demand periods. Table A.1 shows the components of the three analyzed energy projects, and each is described in further detail in the following sections.

Table A.1: Analyzed Energy Projects

Entity	PV	BESS	Metering	EMS	HVAC Retrofits	LED Retrofit
City of Dublin	X	X		X	X	X
City of Milpitas	X	X	X			X
Laguna Wastewater Treatment Plant	X	X				

EMS Energy Management System

HVAC Heating, ventilation, and air conditioning

City of Dublin

In 2021, the City of Dublin, California, in Alameda County, initiated a project to install microgrids, complete energy efficiency upgrades, and install electric vehicle charging stations over 20 city-owned facilities. The project was scoped to take significant steps toward Dublin's Climate Action Plan, which includes the goal of 100% carbon-free energy, building electrification, and fleet electrification by 2030. Details about the project were taken from a report to the Dublin City Council on July 20, 2021,¹

Energy Resiliency – The City of Dublin installed microgrids at the four sites described in Table A.2. The Dublin Senior Center doubles as a community emergency response center that provides Dublin residents shelter and cooling in the event of a prolonged power outage. Solar panels were also installed at the Dublin Library, two fire stations, and a sports park without battery storage. Emergency generators were installed at the library, Shannon Community Center, and three fire stations. Finally, emergency power was installed at traffic lights throughout the city using hydrogen fuel cells and battery backup systems.

Table A.2: City of Dublin Microgrids

Facility	Solar Production Capacity (kW-DC)	Battery Discharge Capacity (kW)	Battery Storage Capacity (kWh)
Civic Center	232	32	64
Corporation Yard	47	100	165
Senior Center	38	100	165
The Wave (Swim Center)	525	500	1,100

kW Kilowatt

kW-DC Kilowatt-direct current

kWh Kilowatt-hour

¹ <https://citydocs.ci.dublin.ca.us/WebLink/DocView.aspx?id=858670&dbid=0&repo=CityofDublin>

Energy Efficiency – The City of Dublin also completed a wide range of energy efficiency upgrades as part of this project. Heating, ventilation, and air-conditioning (HVAC) efficiencies were improved through rooftop unit (RTU) replacement, split-system heat pump replacements, a heating boiler replacement, and new HVAC controls. New light emitting diode (LED) lights were installed for building interior lighting, building exterior lighting, parking lots, streetlights, and outdoor sports facilities.

Electric Vehicle Charging – Charging stations were installed with dedicated solar panels at two sites to serve the City's electric vehicle fleet. At the Public Safety Complex, six Level 2 charging stations were installed with a 136 kilowatt-direct current (kW-DC) solar array. At the Dublin Sports Complex, five Level 2 charging stations were installed with 200 kW-DC solar array.

Funding – This project was executed using an Energy Savings Performance Contract (ESPC). In this type of contract, the city enlists a third party, called an Energy Service Company (ESCO), to design and construct the energy improvements. The City issued low-interest, green bonds to finance the project over the course of 25 years. Supplemental funding was provided through a custom incentive program administered by Pacific Gas and Electric (PG&E). Table A.3 provides a summary of the project financials.

Table A.3: City of Dublin ESPC Fact Sheet

2021 ESPC	
ESCO	Willdan Energy Solutions
Value	\$21.4 million
Performance Period	25 years
Rebates and Incentives	\$437,953
Total Annual Savings	\$694,068

City of Milpitas

In 2021, the City of Milpitas, California, in Santa Clara County, began a project to install solar electric generators, battery energy storage systems, new metering infrastructure, energy efficiency retrofits, and water efficiency retrofits at its facilities and parks. Information on the project was taken from the city's website and press releases.²

Energy Resiliency – Microgrids were installed at two resilient community centers that provide Milpitas residents shelter and cooling in the event of a prolonged power outage. The Barbera Lee Senior Center and Milpitas Community Center now serve as these resilient community centers. In total, the microgrids are powered by over 200 kilowatts (kW) of solar power production and natural gas generators backed up by batteries with a discharge capacity of 250 kW.

Energy and Water Efficiency – Milpitas reduced its energy and water consumption and increased resilience by installing several large efficiency projects. LED lights were installed for streetlighting, building interior lighting, and at parks and sports fields. Outage detection controls were also installed at streetlights across the city to ease the maintenance burden of keeping streets lit. Efficient water fixtures were installed in bathrooms across all city facilities with touchless



Barbera Lee Senior Center PV
Source: City of Milpitas website

² <https://www.smartcitymilpitas.org/>
<https://svcleanenergy.org/news/milpitas-community-center-powers-up-with-resiliency-grant-from-silicon-valley-clean-energy/>

Young, Julie. "Power Play: Milpitas Energy Upgrades Will Save the City Millions." The Municipal, Aug 2022, pp. 62-63.

sensors to reduce water usage. Advanced water meters were installed at community centers and parks to detect leaks and avoid unnecessary water losses.

Electric Vehicle Charging – New public electric vehicle charging stations were installed at the Resilient Community Centers. Four chargers are available to the public; charging is free for the first 4 hours.

Funding – This project was executed using an ESPC. The City issued low-interest, green bonds to finance the project, received a Community Resilience grant from Silicon Valley Clean Energy, and received incentives from PG&E. Table A.4 provides a summary of the project financials.

Table A.4: City of Milpitas ESPC Fact Sheet

2021 ESPC	
ESCO	ENGIE North America
Value	\$34 million
Performance Period	20 years
Grants and Incentives	Over \$700,000
Total Annual Savings	\$1.5 million

City of Santa Rosa Laguna Wastewater Treatment Plant Microgrid

In 2019, the City of Santa Rosa, California, in Sonoma County, executed a project to install a microgrid at its Laguna WWTP. The plant has served Santa Rosa and surrounding areas since 1968 and had undergone many upgrades over the decades to add capacity and ultraviolet light disinfection. When the project was initiated, the plant had an average daily throughput of 17.5 million gallons and operated a 2.2-megawatt (MW) co-generation system that was fueled by methane harvested from the wastewater. The goal of the project was to enable the plant to respond to fluctuations in grid demand and the price of electricity and to stabilize the power produced by the co-generation system. Details from this project were taken from a 2020 report from the California Energy Commission (CEC).³

The microgrid integrated the existing co-generation system with a new 126-kW solar electric generator. A BESS was installed with a storage capacity of 480 kilowatt-hours (kWh) and a discharge capacity of 2MW. The BESS was used in conjunction with water storage basins on site to regulate the demand of the plant seen by the grid. This allows the plant to avoid large spikes in power draw during the peak demand period, thus reducing the cost and carbon footprint of the energy consumed. The microgrid is controlled using a Schweitzer SEL3555 Real-Time Automation Controller and interconnected to the PG&E grid via a 69-kilovolt (kV) substation.



Santa Rosa PV Array

Source: The Santa Rosa Press Democrat

Funding – This microgrid project was funded by the CEC’s Electric Program Investment Charge (EPIC) program. This grant program funds projects that demonstrate the viability of clean, safe, and resilient energy technologies and is currently funded through 2025. Table A.5 provides a summary of the project financials.

³ <https://www.energy.ca.gov/publications/2019/constructing-microgrid-wastewater-treatment-facility>

Table A.5: Laguna WWTP Microgrid Fact Sheet

2019 Microgrid Project	
Project / Construction Manager	Trane
Grant	\$5 million
BESS Demand Reduction	250 kW
Total Annual Savings	\$80,000

Future Trends

In 2022, California passed a law to set decarbonization standards for the state and set the goal of carbon neutrality by 2045. The cost-effective measure included in the example projects and recommended in this report take a significant step towards achieving these goals. However, to fully achieve carbon neutrality additional steps will need to be taken to remove gas appliances and gas-fired hydronic heating systems. The technologies available to solve these problems are currently emerging but have much to prove in terms of cost and reliability. Heat pump water heaters of the size needed to replace boilers and pool water heaters will have the largest effect on direct carbon emissions but are the least developed of the decarbonization technologies. As these technologies evolve, more decarbonization measures may become cost effective and/or available at a cost acceptable to carbon conscious customers.

B. Facility Overview

B.1 Senior Center

Tetra Tech evaluated energy conservation, energy generation, energy storage, and electric vehicle charging station measures for the Senior Center. Table B.1 summarizes the savings and financial analysis of those measures.

Table B.1: Senior Center Measures List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.1	Microgrid/PV/BESS	\$562,877	\$62,744	679.7	3.67	48.1
C.3	EV Charging Stations	\$45,000				
C.4	Energy Dashboard and Demand Management	\$9,500	\$685	10.0	1.44	2.7
C.5	High Efficiency RTU Replacement and DCV	\$89,500	\$9,486	322.9	1.60	97.8
C.7	Zone Temperature Setback	\$3,700	\$1,262	53.9	1.71	23.1
Total		\$710,577	\$74,177	1,066.5	1.82	171.7

GHG Greenhouse gas

MBtu Million British thermal units

Building Operation

The Senior Center building provides meeting rooms, an activity hall, and a kitchen for Pinole's seniors. The building is open to the public Monday through Friday from 8 AM to 4:00 PM. Tetra Tech visited the building on November 9, 2023, to inspect the HVAC and lighting equipment; on November 28, 2023, to collect data loggers; and on December 14, 2023, to inspect the nighttime operation of the lighting equipment. During these site visits, approximately 30 people were in the building during normal operating hours; the building is unoccupied at night and on weekends.



Pinole Senior Center at Night

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 9845996180; Acct: 9840139961) purchases energy at the B10S rate, which has time-of-use energy charges and demand charges based on the highest power draw during any 15-minute interval of the monthly billing period. The natural gas account (SAID: 8402601005; Acct: 8402601462) purchases gas at the GNR1 rate. Figure B.1 shows the cost and usage on the utility bills for the site for the last 14 months. Figure B.2 shows the demand profile of the building for a typical day. In total, City Hall has an annual electric usage of 132,519 kWh and natural gas usage of 3,214 therms, for a total annual energy usage of 774 million British thermal units (MBtu), an energy cost of \$49,873.31, and an Energy Use Intensity (EUI) of 53.9.

Figure B.1: Senior Center Utility Profile

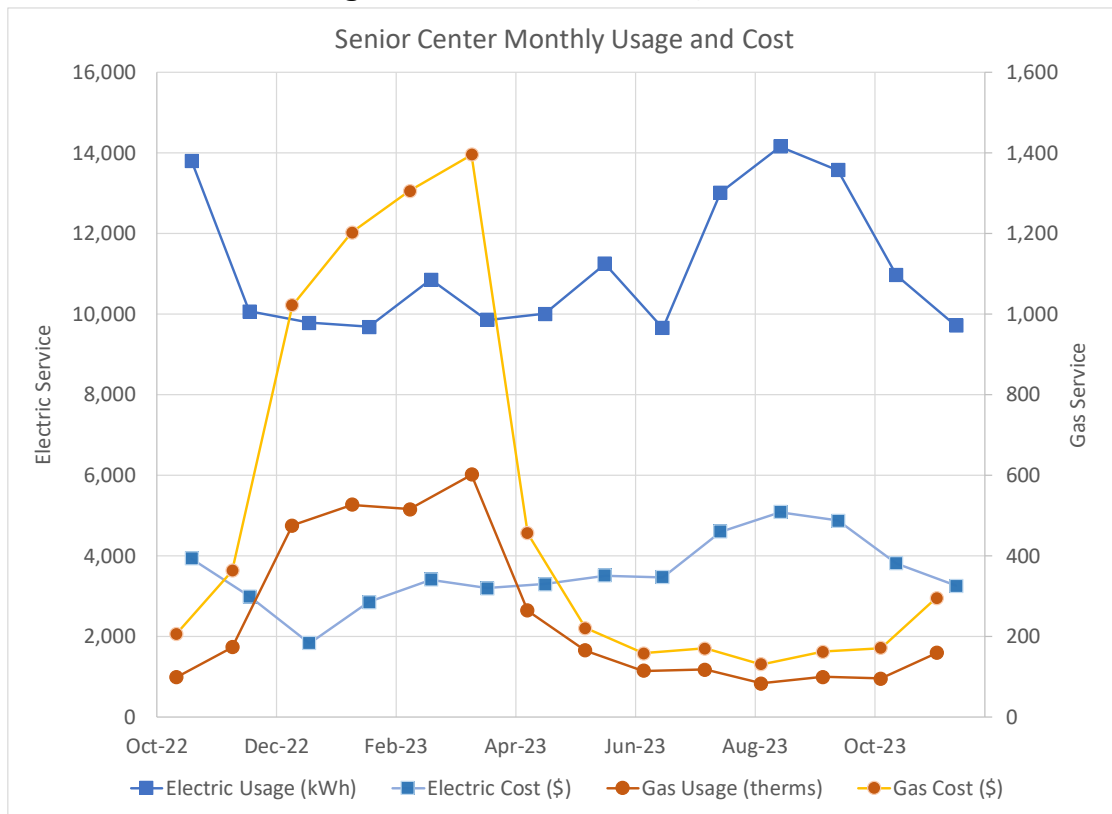
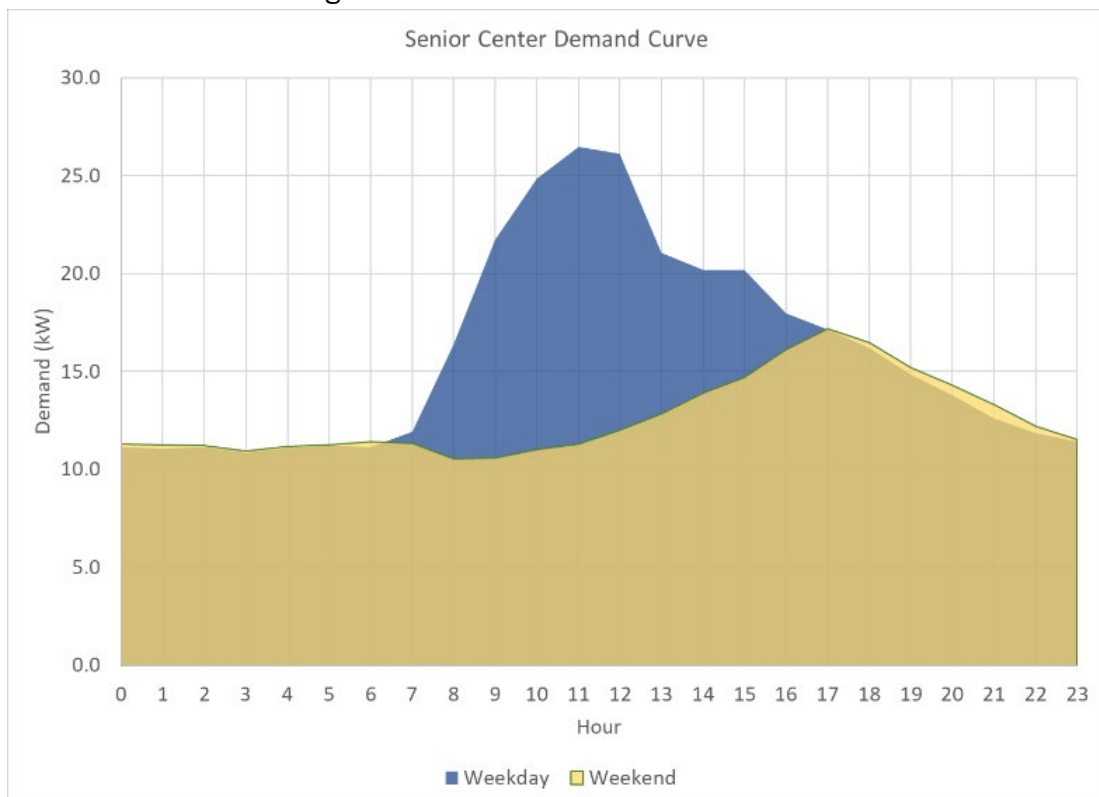


Figure B.2: Senior Center Demand Curve



HVAC

The primary HVAC system consists of two large air handlers that serve the main hall and kitchen. These air handlers use natural gas furnaces and direct expansion (DX) cooling. Conditioned air is distributed to the space through high bay registers. The units are controlled by two non-programmable thermostats located in the main hall that are locked and inaccessible to the public.

A secondary HVAC system serves the meeting rooms and offices on the south side of the building. There are four vertically ducted furnaces that heat and distribute air to these spaces. Each furnace is equipped with a ducted heat pump installed directly down stream of the heating unit, which is used for cooling. Each furnace/ heat pump system is controlled by an individual non-programmable thermostat, though each unit serves multiple zones. Table B.2 lists the HVAC equipment for the building.

Table B.2: Senior Center HVAC List

Equipment	Make	Model	Capacity	units	Vintage
Air Handler #1	York	D2CG180	180	kBtu/hr	1991
Air Handler #2	York	D2CG150	150	kBtu/hr	1991
(4) Forced Air Furnaces	Trane	XL80	79	kBtu/hr	2009
(4) Ducted Cased Coil	Aspen	CC60B3X	60	kBtu/hr	2009
Split System Air Conditioner	York	H2CB060S25C	60	kBtu/hr	2006

kBtu Thousand British thermal units

The two large air handlers on the roof of the building are well past their expected useful life. Efficiency standards for air conditioning have increased greatly since these units were manufactured in 1991. A new, premium efficiency RTU would have a cooling efficiency twice that of the existing units. In addition, the HVAC system does not have the capability to effectively ramp down when the building is unoccupied. The large air handlers are sized to provide fresh air for a fully packed crowd in the main hall but must cool or heat that large amount of air even when no one is present. The thermostats throughout the building maintain a constant space temperature. This forces the HVAC units to fully cool the building on the hottest afternoons of the year and fully heat the building on the coldest nights of the year even though the buildings are nearly always unoccupied after 3 PM.

Lighting

The office areas, meeting rooms, kitchen, and lobby of the building are lit by two-lamp T8 fluorescent fixtures. The main hall is lit by compact fluorescent (CFL) fixtures in high-bay recessed fixtures and wall-mounted sconces. The offices, lobby, kitchen, and main hall lights are controlled by manual switches. The meeting rooms lights are controlled by wall-mounted occupancy sensors. Nighttime observations showed that only emergency lighting operates at night.

All the lighting in the building is controlled by manual switches and remains on for large portions of the day even when large portions of the building are unoccupied.

B.2 City Hall

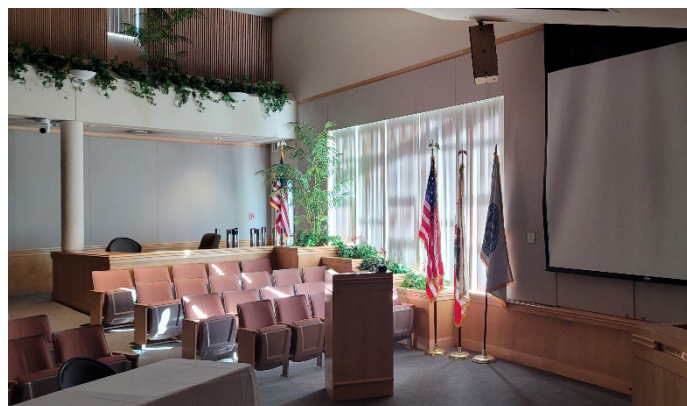
Tetra Tech evaluated energy conservation measures for City Hall. Table B.3 summarizes the savings and financial analysis of those measures.

Table B.3: City Hall Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard and Demand Management	\$9,500	\$751	12.8	1.44	0.9
C.5	Chamber RTU Replacement and DCV	\$74,500	\$10,243	439.3	2.08	195.6
C.6	Duct Air and Hot Water Temp Reset	\$40,800	\$9,595	438.4	1.18	201.7
C.7	Zone Temp Setback	\$15,900	\$4,256	174.2	2.68	70.9
C.8	Interior LED and Retrofit	\$39,800	\$4,301	106.3	1.08	7.5
C.9	Occupancy Sensor Retrofit	\$8,400	\$1,146	28.3	1.36	2.0
Total		\$188,900	\$30,291	1,199.4	1.65	478.6

Building Operation

The City Hall building is a two-story building that provides offices for City of Pinole staff, meeting rooms for staff and the public, and a large conference room for City Council meetings. The building is open to the public Monday through Thursday from 8 AM to 4:30 PM and during City Council meetings for five hours every other Tuesday evening. Tetra Tech visited the building on November 1, 2023, to inspect the HVAC and lighting equipment; on November 28, 2023, to collect data loggers; and on December 14, 2023, to inspect the nighttime operation of the lighting equipment. During these site visits, approximately 20 people were in the building during normal operating hours, very few people are in the building on Friday, and the building is unoccupied at night and on weekends.



City Hall Council Chambers

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 527600364; Acct: 527600923) purchases energy at the B10S rate, which has time-of-use energy charges and demand charges based on the highest power draw during any 15-minute interval of the monthly billing period. The natural gas account (SAID: 1152600005; Acct: 1152600883) is shared with the Public Safety Building. Tetra Tech estimated the natural gas usage based on building models. Figure B.3 shows the cost and usage on the utility bills for the site for the last 14 months. Figure B.4 shows the demand profile of the building for a typical day. In total, City Hall has an annual electric usage of 232,437 kWh and natural gas usage of 13,610 therms, for a total annual energy usage of 2,154 MBtu, energy cost of \$95,151.71, and EUI of 122.4. The energy intensity is about two times larger than similar office buildings in similar climates. This marks the building as having great potential for energy savings.

Figure B.3: City Hall Utility Profile

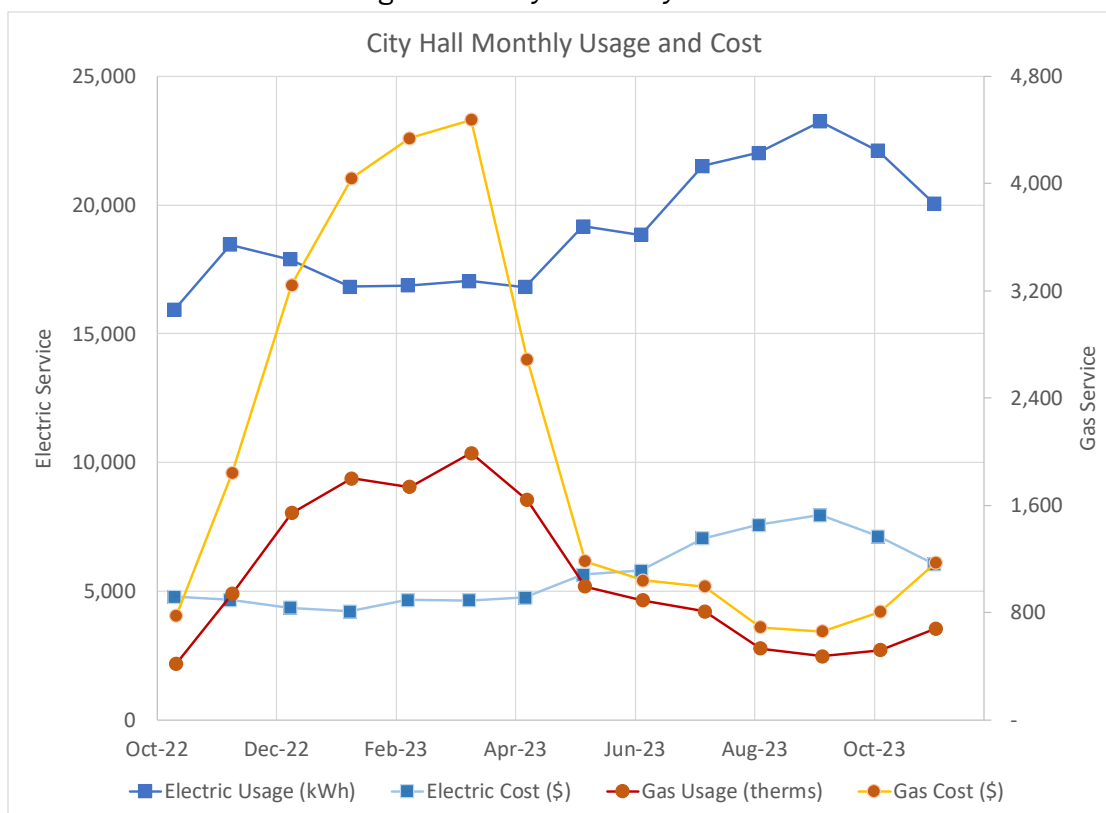
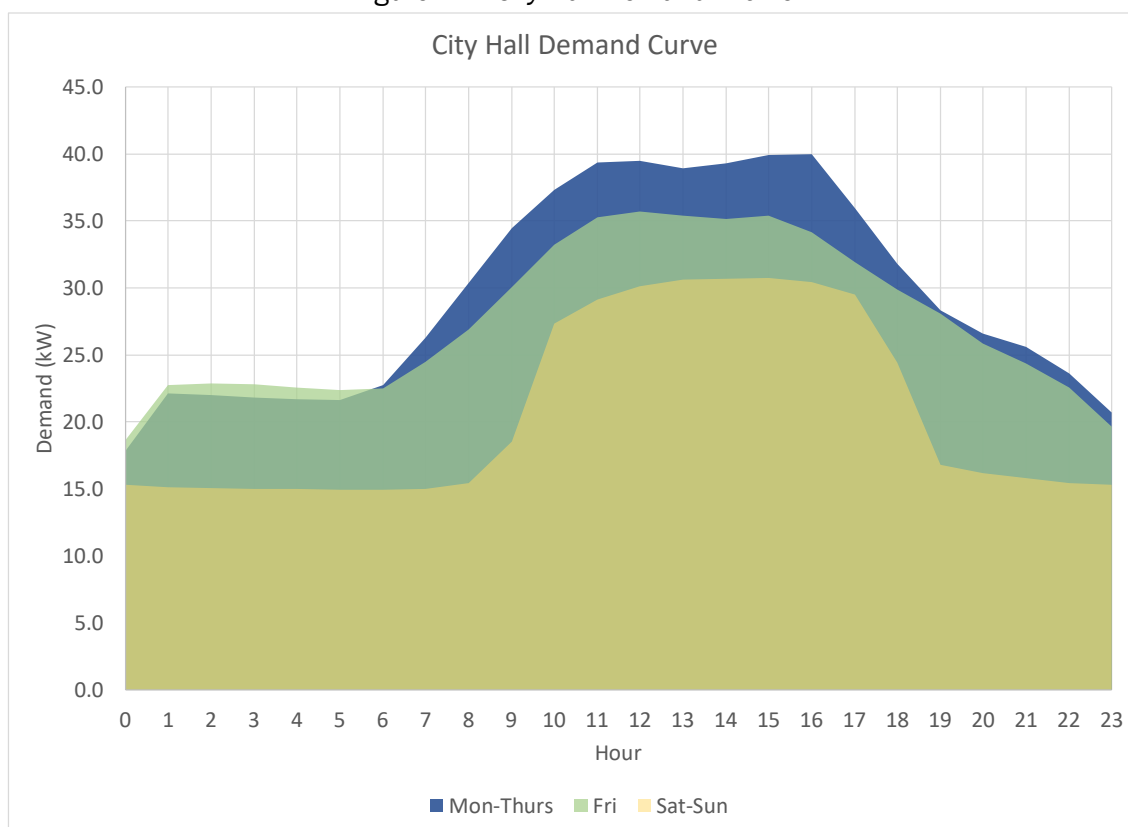


Figure B.4: City Hall Demand Profile



HVAC

The primary HVAC system consists of a large air handler that receives chilled water from a 4-ton, air-cooled chiller. The air handler mixes return air and fresh air, cools the air to 53°F, and distributes air to variable-air-volume (VAV) boxes throughout the building to reheat using hot water provided by a 400 thousand British thermal units per hour (kBtu/hr) boiler. Each of the 25 VAV boxes is controlled by an individual thermostat. The zone temperatures are set via a centralized Building Management System (BMS) with a small adjustment dead band controlled by the building occupants. The BMS is no longer accessible by public works personnel to monitor equipment operation or adjust system setpoints.

A secondary HVAC system exclusively serves the council chambers. This system consists of a rooftop air handler that uses a natural gas furnace and a DX cooling coil. The unit is sized to provide enough fresh air for the occupancy capacity of the council chambers and provides full fresh air ventilation 24 hours per day, 365 days per year. The unit maintains a temperature in the chamber between 60°F and 78°F for most of the time and between 67°F and 73°F during scheduled City Council meetings. Table B.4 lists the HVAC equipment for the building.

Table B.4: City Hall HVAC List

Equipment	Make	Model	Capacity	Units	Vintage
Air Handler #1	Vertiv	Energy Labs	12,000	cfm	2012
Hot Water Boiler	LAARS	MT2H0400NACK1BXX	400	kBtu/hr	2011
Air Cooled Chiller	Carrier	38APS04065A12190	480	kBtu/hr	2021
Packaged Air Handler	McQuay	LGA150SH2G	150	kBtu/hr	1997
Computer Room Heat Pump	Carrier	38YCB024310	240	kBtu/hr	1997

cfm Cubic feet per minute

Based on field observations and monitoring data, the building is wasting a lot of energy through simultaneous heating and cooling and through conditioning and ventilating unoccupied spaces. During the monitoring period from November 1 to November 28, 2023, the outside air temperature varied from 75°F to 36°F, but the boiler always ran, and the chiller ran whenever needed to cool the incoming air to 53°F. The HVAC system effectively ramped down on the weekends but ran at high capacity at night and on Fridays when the building is sparsely occupied. Also, during this time, the packaged air handler serving the council chambers were always running at full capacity.

The proposed HVAC measures aim to improve the HVAC system's ability to respond to changes in ambient conditions and building occupancy. When the outside air temperature is cool (53°F – 62°F), the chiller should not operate, and the air handler should use the cool outside air as free cooling for zones with high cooling loads. When the outside air temperature is warm (above 67°F), the boiler should not operate, and the air handler should set the duct air temperature to the minimum temperature needed to cool the zone with lowest heating load.

For areas with highly variable occupancy loads, the air handlers should reduce the airflow rate when the space is not in use.

Lighting

The office areas and hallways of the building are lit by two-lamp T8 fluorescent fixtures. This lighting is supplemented by recessed CFL fixtures in the lobby areas and stairwells. The council chambers are lit by fluorescent track lighting and recessed CFL fixtures. The office, council chambers, and meeting room lights are controlled by manual switches. Nighttime observations showed that only hallway and emergency lighting operate at night.

All the lighting in the building is controlled by manual switches and remains on for large portions of the day, even when large portions of the building are unoccupied.

B.3 Public Safety Building

Tetra Tech evaluated energy conservation measures for the Public Safety Building (PSB). Table B.5 summarizes the savings and financial analysis of those measures.

Table B.5: Public Safety Building Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard	\$2,000	\$0			
C.10	Boiler Replacement	\$71,800	\$5,157	277.3	1.44	146.7
C.11	Fire Station Bay DCV	\$20,400	\$7,638	339.6	5.62	152.0
C.7	Zone Temperature Setback	\$11,300	\$1,481	69.1	1.31	32.6
C.8	Interior LED and Retrofit	\$44,400	\$6,995	171.3	1.58	12.1
C.9	Occupancy Sensor Retrofit	\$9,700	\$1,049	25.9	1.08	1.8
Total		\$159,600	\$22,320	883.2	1.96	345.2

Building Operation

The PSB provides facilities for Pinole's fire and police departments. The building contains four main areas: the fire department garage, fire department offices and lodging, police department offices and dispatch, and the detention center. The occupancy schedule for each space type is provided in the following table:

Table B.6: Public Safety Occupancy Schedule

Space Type	Schedule
Police Offices	M-F 7AM-5PM w/limited off-hour staff
Police Dispatch	24/7
Detention Center	24/7
Fire Dept. Offices	M-F 7AM-5PM
Fire Dept. Lodging	24/7
Fire Dept. Garage	M-F 7AM-8PM w/emergency operation 24/7

Tetra Tech visited the building on November 1, 2023, to inspect the HVAC and lighting equipment; on November 28, 2023, to collect data loggers; and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 1196945891; Acct: 1194267547) purchases energy at the B10S rate, which has time-of-use energy charges and demand charges based on the highest power draw during any 15-minute interval of the monthly billing period. The natural gas account (SAID: 1152600005; Acct: 1152600883) is shared with City Hall. Tetra Tech estimated the natural gas usage based on building models. Figure B.5 shows the cost and usage on the utility bills for the site for the last 14 months. Figure B.6 shows the demand profile of the building for a typical day. In total, the PSB has an annual electric usage of 404,896 kWh and natural gas usage of 16,635 therms, for a total annual energy usage of 3,045 MBtu, energy cost of \$141,757, and an EUI of 114.9.

Figure B.5: PSB Utility Profile

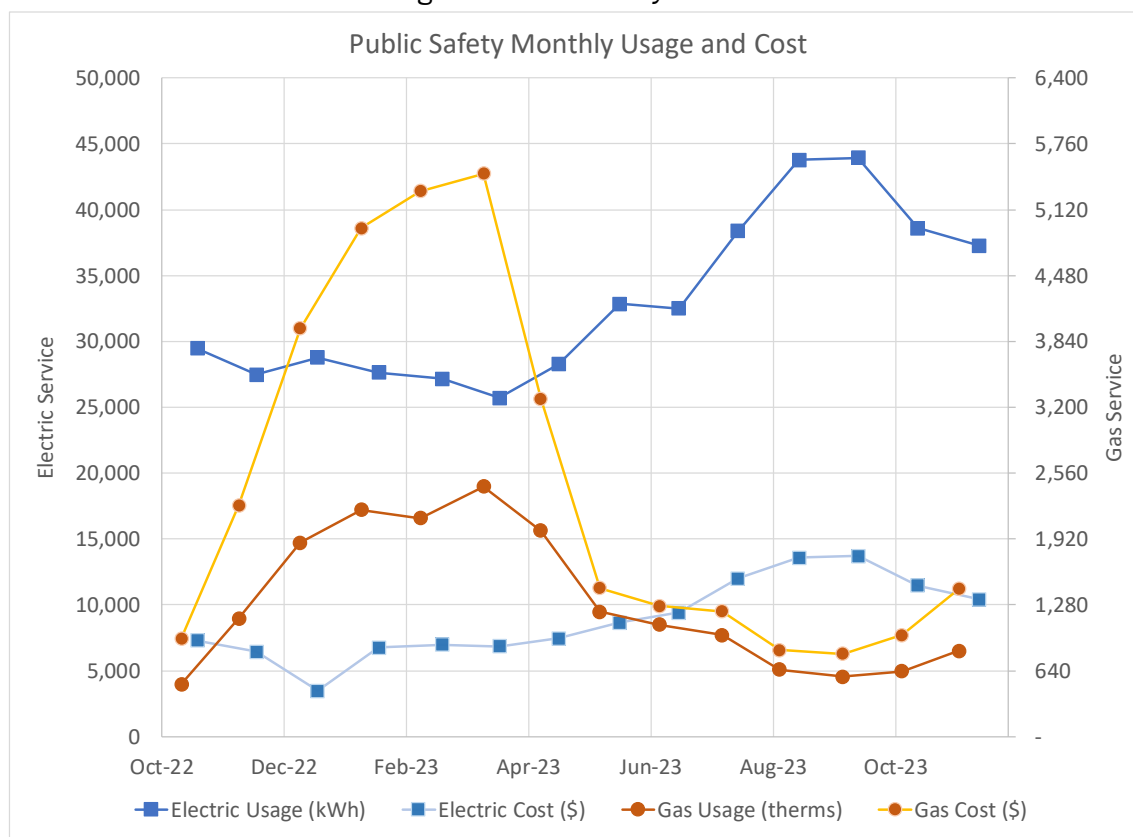
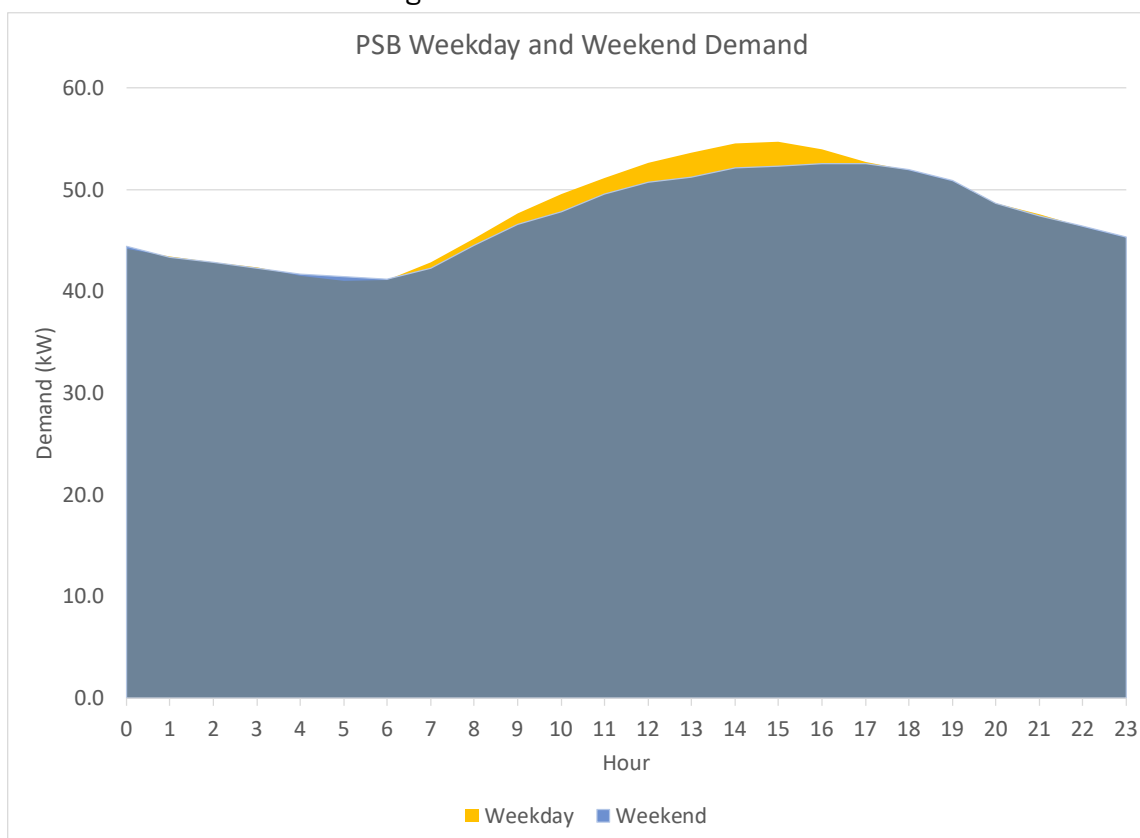


Figure B.6: PSB Demand Profile



HVAC

The building's HVAC system consists of four air handlers that serve the four sections of the building. Hot water is provided to the air handlers from a central hot water boiler located in the first-floor mechanical room on the north-east side of the building. AHU 1 serves the fire department garage; it always provides 3,300 cubic feet per minute (cfm) of fresh outside air and provides heat when the outside air temperature is below 60°F. AHUs 2 and 3 are built-up air handlers that serve the fire department lodging rooms and detention center. Each provides cooling using a ducted heat pump and are controlled by a non-programmable, pneumatic thermostat in the space they condition. AHU 4 is a Trane Intellipak unit located on the roof of the building. AHU 4 serves the Police Department offices and dispatch. Supplemental cooling for the dispatch servers and offices is provided by split-system heat pumps. Table B.7 lists the HVAC equipment for the building.

Table B.7: PSB HVAC List

Equipment	Qty	Make	Model	Capacity	Units	Vintage
Boiler	1	Bryan	CL-90W-100-GI	720	kBtu/hr	1984
Air Handler (AHU)1	1	Custom		3	hp	1976
AHUs 2&3	2	Trane	BACA-8756-D	1.5	hp	1984
Rooftop Air Handler (AHU 4)	1	Trane	SAHFC20E0726D4DD7000A 0W00000000RT0080000S	20	tons	2005
Air Conditioner	2	Payne	PA13NR030-J	2	tons	2012
Air Conditioner	2	Carrier	692APX048000AAAA	4	tons	1988

hp Horsepower

The boiler and built-up air handlers are well past their expected useful life. Efficiency standards for boilers, motors, and cooling equipment has increased dramatically since this equipment was installed. The boiler has a rated efficiency of 80%, while modern condensing boilers can operate at 92% to 96% efficiency. The fan motors have a rated efficiency of 75% to 78%, while similar modern motors have efficiencies of 89% to 92%. The cooling units have a rated seasonal energy efficiency ratio (SEER) of 8.8-9.1, while modern units have EERs of over 15.2.

The pneumatic system that controls this legacy equipment is not capable of effectively adjusting the operating setpoints in response to changes in heating and cooling loads in the spaces they serve. This is reflected in the building power demand profile that remains steady throughout the week despite significant changes in occupancy and cooling load. The negative effect of these controls can also be seen in the boiler monitoring that Tetra Tech performed. The boiler remained on and provided 165°F water for nearly the entire monitoring period, despite the outside air temperature regularly rising above 70°F.

Lighting

The private offices, garage, lodging rooms, and detention facilities of the building are lit by two-lamp T8 fluorescent fixtures. The open office area on the second floor is lit by recessed CFL fixtures. All lighting appeared to be controlled by manual switches, though the switch panel was not accessible in the open office area, lobby, and garage. Nighttime observations showed that the lights in the open offices, lobby, garage, and hallways areas remained on at full power throughout the night though few people are in these areas after hours.

All the lighting in the building is controlled by manual switches and remains on for large portions of the day and night even when large portions of the building are unoccupied.

B.4 Wastewater Treatment Plant

Tetra Tech evaluated energy conservation, energy generation, energy storage, and electric vehicle measures for the WWTP. Table B.8 summarizes the savings and financial analysis of those measures.

Table B.8: WWTP Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.2	Microgrid/PV/BESS	\$1,677,000	\$239,200	2,666.7	3.28	188.5
C.4	Energy Dashboard	\$3,000				
C.13	Boiler Insulation	\$6,200	\$1,582	92.5	2.55	48.9
Total		\$1,686,200	\$240,782	2,759.2	2.48	237.4

Plant Operation

The WWTP processes and discharges wastewater from Pinole and Hercules. The site sits on a 179,000 square foot plot of land located between Pinole Creek, San Pablo Bay, and the Union Pacific Railway. The plant has water sanitation equipment and solids handling equipment to process over 2.5 million gallons of water per day. The site went through a major renovation in 2019, which replaced a large portion of the wastewater treatment equipment. Tetra Tech visited the plant on November 6, 2023, to inspect the equipment, learn about the equipment operation, and download trend data critical to understanding the energy usage of the site.



WWTP Anaerobic Digesters

Energy Usage

The plant receives electric and natural gas service from PG&E. The electric account (SAID: 1409506534; Acct: 1404844256) purchases energy at the B10S rate, which has time-of-use energy charges and demand charges based on the highest power draw during any 15-minute interval of the monthly billing period. The natural gas account (SAID: 5944278005; Acct: 5944278716) purchases gas at the GNR1 rate. Figure B.7 shows the cost and usage on the utility bills for the site for the last 14 months. Figure B.8 shows the demand spikes from month to month compared to the energy usage. In total, the WWTP has an annual electric usage of 2,936,114 kWh and natural gas usage of 31,767 therms, for a total annual energy usage of 13,195 MBtu and energy cost of \$889,391.

Figure B.7: WWTP Utility Profile

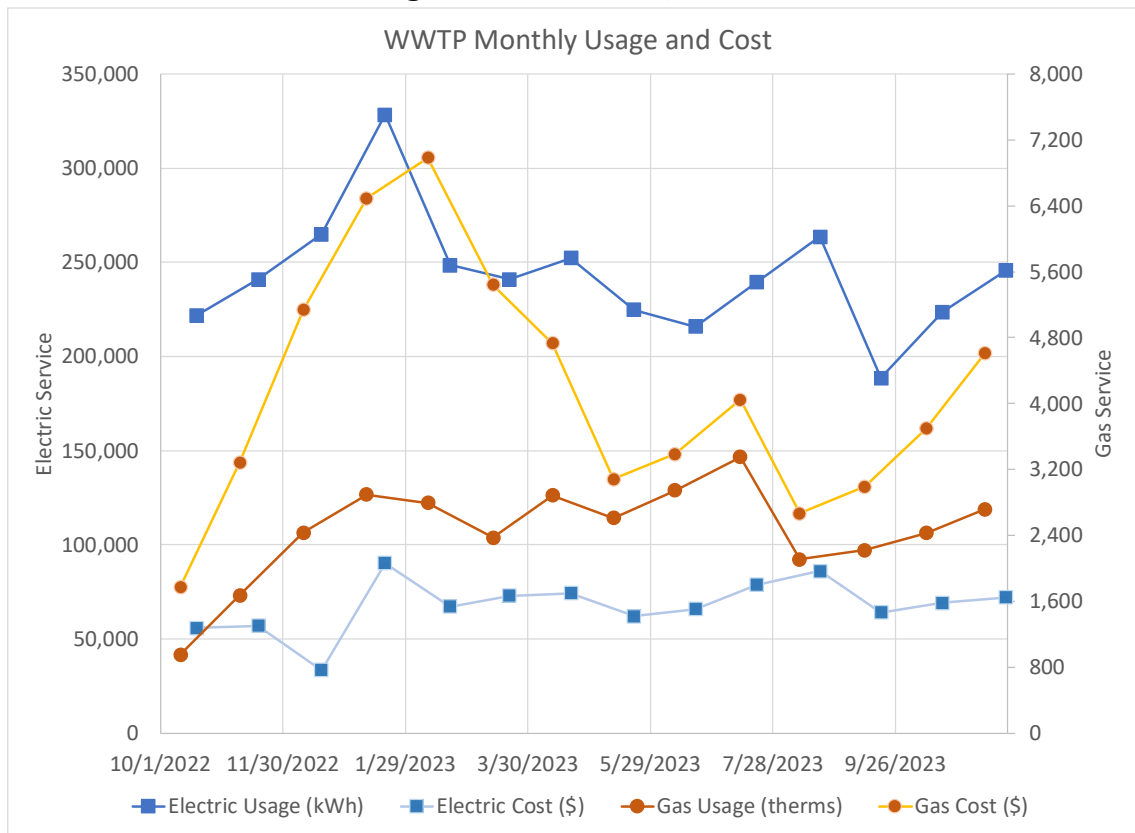
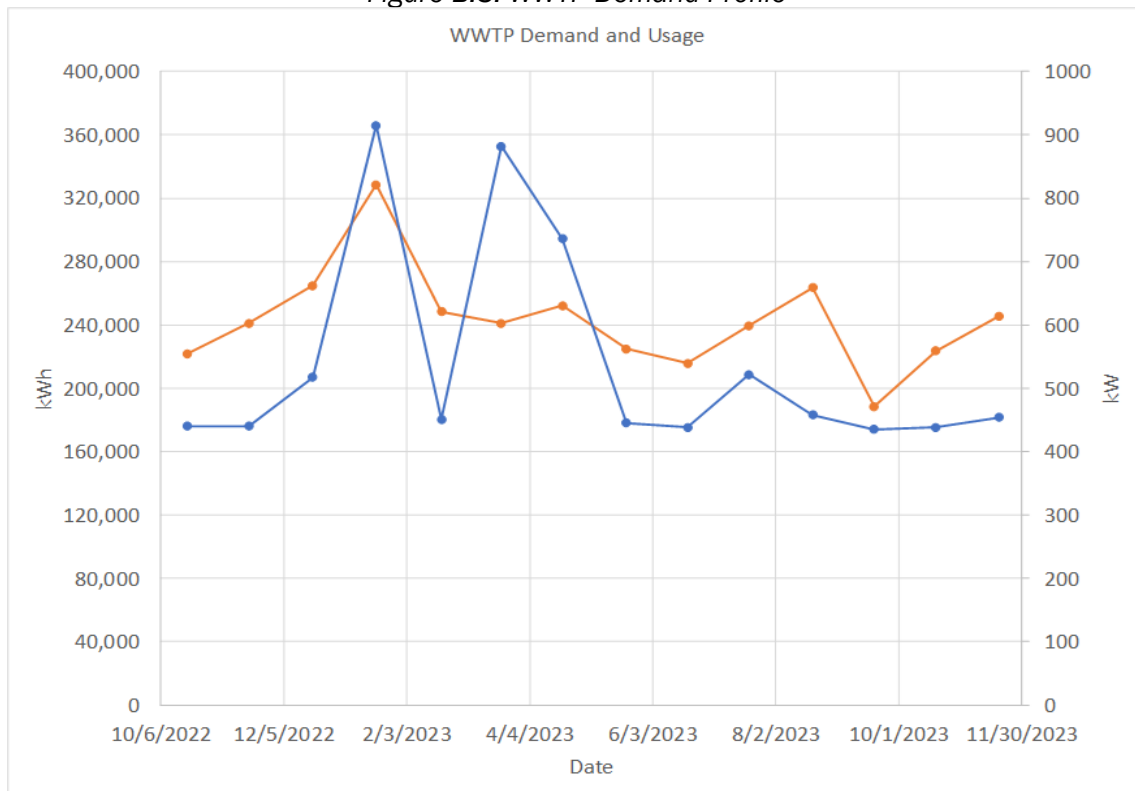


Figure B.8: WWTP Demand Profile



Energy Generation

The plant is equipped with a 100-kilowatt (kW) combined heat and power (CHP) generator that uses waste gas from the anaerobic digesters to generate power and heat for the anaerobic digester. At the time of the site visit, the CHP generator was down for maintenance but the plant personnel provided trend data of the power output of the system. Emergency power is provided by three diesel generators. A list of generation equipment is provided in the following table:

Table B.9: WWTP Generator List

Equipment	Qty	Make	Model	Size	Units	Vintage
CHP Generator	1	MAN Engines	E2866E	95	kW	2014
Diesel Generator	1	Caterpillar	C27	800	kW	2011
Diesel Generator	2	Caterpillar	C27	905	kW	2016

Process

The largest energy loads at the WWTP are the pumps and fans used in the treatment process. Most of this equipment was replaced during the 2019 renovation of the facility. Broadly, the equipment falls into one of two categories: water sanitation and solids handling. Water sanitation equipment is controlled to maintain conditions favorable to the decomposition of harmful pathogens and to pump water through the plant and out to San Pablo Bay. The solids handling equipment is used to separate and dewater the biosolids for disposal at the landfill. Because of limited space at the site, all incoming waste is treated on demand with regular fluctuations in volume throughout the day and large inflows of stormwater when it rains. A list of the motors, pumps, and blowers used in the treatment process is provided in the following table:

Table B.10: WWTP Equipment List

Equipment	Qty	Make	Model	Size	Units	Flow	Unit s	Lift	Units	Vintage
Vertical Turbine Effluent Pumps	3	Weir Floway	77938-1-1/3	400	hp	4,830	gpm	240	ft head	2019
Aeration Blower	3	Aerzen	AT200-0.8S G5	200	hp	3,814	cfm	11.6	psi	2017
Centrifuge	1	Andritz	D5LX60CHPE2	100 /20	hp					2018
Submersible Influent Pump	4	Sulzer	XFP306M PE430/8	58	hp	4,650	gpm	35	ft head	2017
Vertical Turbine Pumps	2	Weir Floway	77938-5-1/2	20	hp	232	gpm	175	ft head	2019
Grit Pumps	2	Grundfos	Morris 6100CT 4x4-18	10	hp	250	gpm	30	ft head	2017
Sludge Pumps	2	Grundfos	Morris 6100CT 2x3-13	10	hp	175	gpm	65	ft head	2019
RAS Pumps	4	Grundfos	7100 - NC0606122V	10	hp	1100	gpm	20	ft head	2019
Primary Scum Pumps	1	Vaughan	SE3P2-460V-090	10	hp	150	gpm	65	ft head	2018

Equipment	Qty	Make	Model	Size	Units	Flow	Units	Lift	Units	Vintage
Submersible Propeller Pump	2	Landia	AXP-I 500 9.0 HP 480	9	hp					2017
Thickener Scum Pumps	1	Vaughan	SE3L1-460V-080	7.5	hp	150	gpm	40	ft head	2018
Progressive Cavity Pumps	2	Netzsch	NM063SY01L07 V	4	hp	150	gpm	15	psi	2018
Rotary Drum	2	FKC	Screw Press	3	hp					2015
WAS Pumps	2	Grundfos	6150 - 4307-1Y	1	hp	100	gpm	12	ft head	2019
Primary Clarifier	3	ClearStream	CCGI.045	0.75	hp					2018/19
Secondary Clarifier	2	ClearStream	CCGI.065	0.75	hp					2018/19
Sample Pumps	6	AMT	285E-999-95	0.5	hp			52	ft head	2019

ft Feet

gpm Gallons per minute

psi Pounds per square inch

WAS Waste Activated Sludge

The WWTP has a highly variable electric power load because the process equipment turns on and ramps up based on the real-time water processing demand of Pinole and Hercules.

HVAC

A 3-ton rooftop air handler provides heating and cooling to the WWTP offices. This air handler uses a natural gas furnace and DX cooling. The unit is controlled by a programmable thermostat in the hallway of the office building.

Lighting

The office building and mechanical rooms throughout the facility use two-lamp T8 fluorescent fixtures.

B.5 Swim Center

Tetra Tech evaluated energy conservation measures for the Swim Center. Table B.11 summarizes the savings and financial analysis of those measures.

Table B.11: Swim Center Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard	\$3,000	\$0			
C.14	Pool Pump VFD Controls	\$68,700	\$9,562	238.1	1.39	16.8
C.15	Pool Cover	\$28,500	\$4,921	346.6	1.73	183.3
C.16	PV Repair	\$8,400	\$2,464	51.6	2.93	3.6
Total		\$135,600	\$16,946	636.3	1.25	203.8

Building Operation

The Pinole Swim Center is a recreation center with two pools: a 183,200-gallon lap pool and an 11,700-gallon kids pool. The pool is open for a variety of classes and public swimming from 10AM to 6PM, Tuesday through Sunday during the summer months (June through August) and open on weekends during the fall and spring (April, May, September, and October). The pool schedule from 2023 showed that there are gaps in planned activities on many days and the pool often is occupied only until 4PM. The pool is heated to 80°F during the entire operating season.

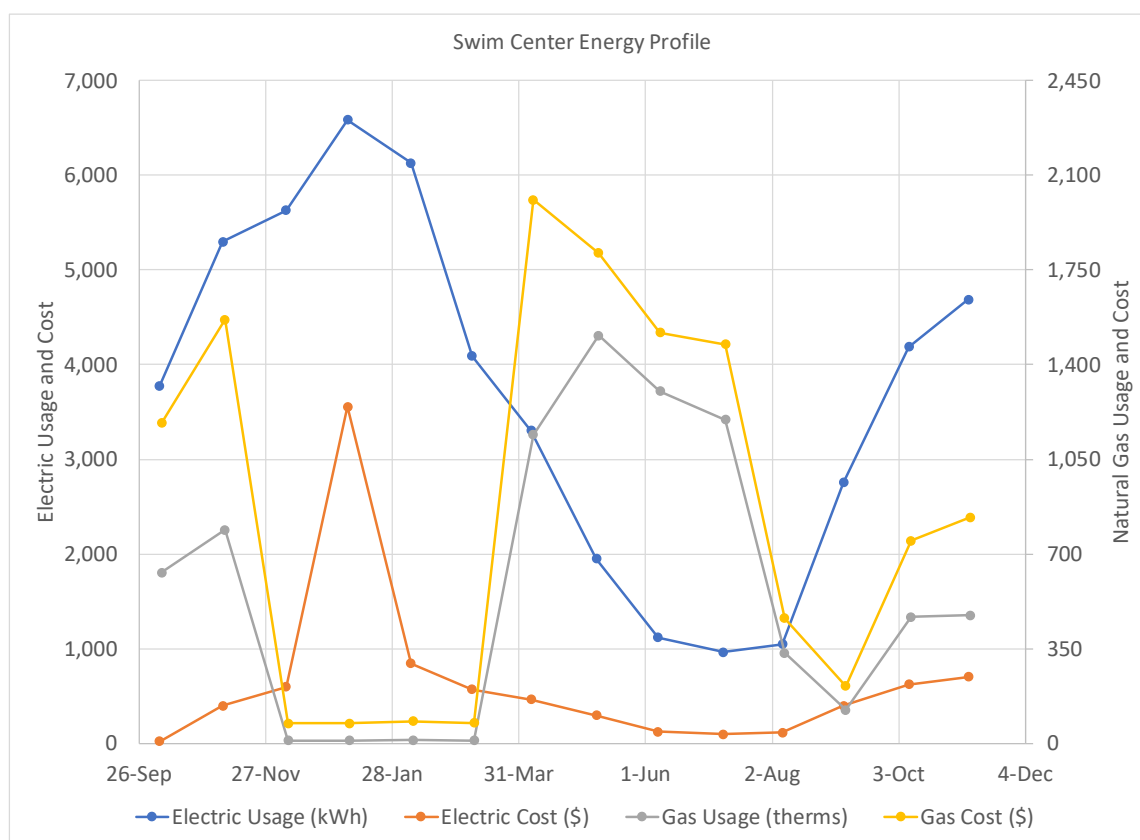
The Swim Center's off season occurs from fall (beginning October 15 to November 1 depending on weather) to spring (ending April 1 to 15 depending on weather). During this time, the pool pumps and heater are ramped down to the level needed to allow for filtration, maintain the pH and chemical treatment levels, and avoid freezing. At the time of the site visit, the pool temperature was at 60°F and the pH level was a 7.4.

Tetra Tech visited the building on November 9, 2023, to inspect the pool equipment and photovoltaic (PV) array and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building received electric and natural gas service from PG&E. The electric account (SAID: 3735045069; Acct: 3735045137) purchases energy at the net energy meter (NEM) A6 rate, which has time-of-use energy charges. The usage shown on the account are significantly offset by the production of the 49-kW PV array. The natural gas account (SAID: 3735045010; Acct: 3735045137) purchases gas at the GNR1 rate. Figure B.9 shows the cost and usage on the utility bills for the site for the last 14 months. In total, the Swim Center has an annual net electric usage of 42,447 kWh and natural gas usage of 6,591 therms, for a total annual energy usage of 804 MBtu and energy cost of \$17,767.

Figure B.9: Swim Center Utility Profile



Pool Equipment

The two pools have independent pumping and heating systems. Each pumping system maintains a flow rate at or slightly above the minimum flow rate mandated by the California building code. The Main pool pump must have enough flow to recirculate the entire volume of the pool every 6 hours, which equates to a flow rate of 509 gallons per minute (gpm). The kids pool must circulate the water every hour, which equates to a flow rate of 195 gpm. Each heating system maintains a water temperature of 80°F during the summer and 60°F during the winter. Table B.12 lists the pool pumping and heating equipment.

Table B.12: Swim Center Equipment List

Equipment	Qty	Make	Model	Capacity	Units
Main Pool Pump	1	Sta-Rite	CCSPHL3-143	10	hp
Main Pool Pump Motor	1	Baldor	EJMM33127	10	hp
Main Pool Heater	2	Hamilton Engineering	EVO 599	611	kBtu/hr
Kid Pool Pump/Motor	1	Pentair	11529	3	hp
Kid Pool Heater	1	Raypack	B-R266A-EN-C ASME	218	kBtu/hr

Despite the long period of downtime at the Swim Center, the electric meter data show very little variance in the pool pumping energy load. While the pool temperature is reduced during the off season, the pool pumps operate at the same level all year long. The California Code of Regulations allows pools to reduce their pumping flow rates by up to 25% when the pool is not in use. Retrofitting the pool pumps to enable variable flow would allow the Swim Center to significantly reduce its power demand at nights, on Mondays, and during the off season. These controls would also make it easier to tune the pump flow in response to system pressure loss so that the flow rate can always meet the minimum requirements.

Energy Generation

The pool has a fixed-tilt, 49-kW solar PV canopy at the southside of the property. The system was installed in 2013 and consists of 221 Canadian Solar CS6P-250P solar panels and 221 Enphase M215 micro inverters. At the time of the site visit, the City of Pinole did not have access to the Enphase monitoring system. Tetra Tech worked with Enphase and the solar installer to create an account for Pinole; however, the system is still not reporting because of issues with the Wi-Fi connection. Tetra Tech evaluated the production of the PV array using interval data from the utility meter.

Based on the analysis of the utility interval data, the PV array is producing at 80% of its expected capacity. Solar production is expected to decrease about 7 to 10% over the first 10 years of operation, so the observed lack of production indicates larger issues with the system. The most likely culprit for the lack of production are broken panels or inverters. Both of these components come with a 25-year warranty that should cover all or part of the replacement.

Lighting

The pool offices and locker rooms are lit by two-lamp T8 fluorescent fixtures controlled by manual switches. These lights do not operate during off-hours.

The exterior of the pool offices is lit by wall-mounted CFL sconces that are controlled by photocells to operate at night. The pool deck is lit by pole-mounted halogen fixtures. Because of the limited number of hours that the pool operates at night, these fixtures run infrequently and do not significantly contribute to the electrical usage of the site.

B.6 Youth Center

Tetra Tech evaluated energy conservation measures for the Youth Center. Table B.13 summarizes the savings and financial analysis of those measures.

Table B.13: Youth Center Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard and Demand Management	\$9,500	\$1,014	14.9	1.83	1.1
C.7	Zone Temperature Setback Schedules	\$7,100	\$814	20.1	1.15	1.4
Total		\$16,600	\$1,828	35.0	1.54	2.5

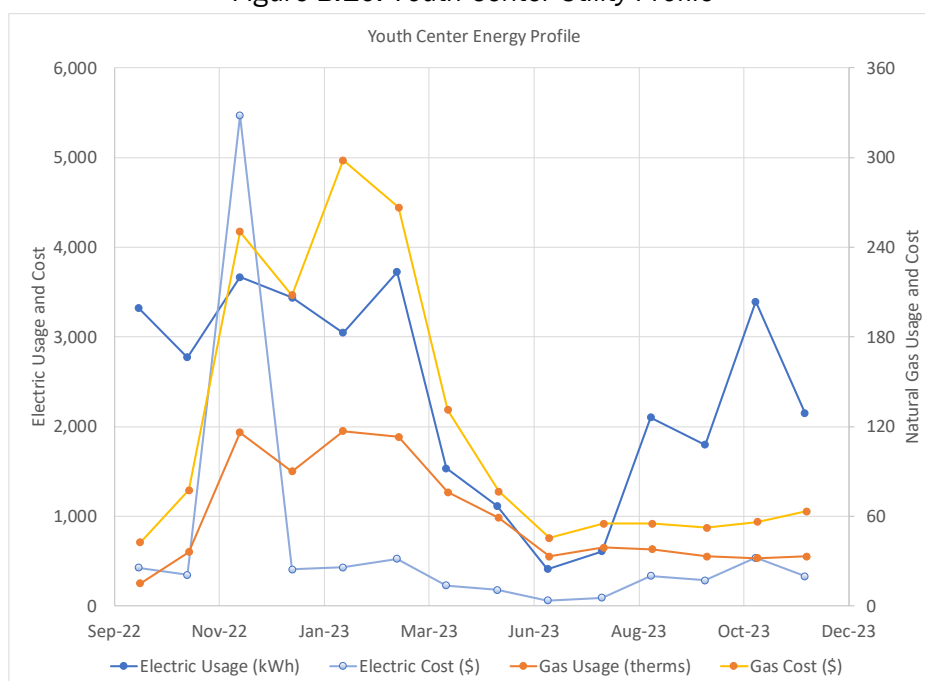
Building Operation

The Pinole Youth Center is a recreation center for youths in Pinole from preschool through high school. It contains cooking areas, a multipurpose room, a radio studio, and theater spaces including a 30-seat theater. The center is occupied sporadically as groups use it for classes, events, and theater productions. Tetra Tech visited the building on November 9, 2023, to inspect the HVAC equipment, lighting equipment, and PV array, and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 9527530591; Acct: 9527530466) purchases energy at the NEM A6 rate, which has time-of-use energy charges. The usage shown on the account are significantly offset by the production of the 25-kW PV array. The natural gas account (SAID: 8455531566; Acct: 8455531156) purchases gas at the GNR1 rate. Figure B.10 shows the cost and usage on the utility bills for the site for the last 14 months. In total, the Youth Center has an annual net electric usage of 29,984 kWh and natural gas usage of 779 therms, for a total annual energy usage of 180 MBtu, energy cost of \$10,429, and an EUI of 18.9.

Figure B.10: Youth Center Utility Profile



HVAC

The primary HVAC system consists of a rooftop air handler that serves the second floor and eight split system heat pumps that serve the first-floor areas. The air handler uses a natural gas furnace and DX cooling. The heat pumps provide heating and cooling to the other areas. The units are controlled by programmable thermostats that do not have schedules programmed. Many of the thermostats have notes near them asking occupants not to adjust the temperatures so a constant space temperature is maintained. Table B.14 lists the HVAC equipment for the building.

Table B.14: Youth Center HVAC List

Equipment	Qty	Make	Model	Capacity	Units	Vintage
Heat Pump	5	Bryant	538BNX024000AEAA	2	tons	2005
Heat Pump	1	Bryant	538BNX048	4	tons	2005
Heat Pump	2	Bryant	Unreadable	3	tons	Unknown
Rooftop Air Handler	1	Bryant	581BPV072072ALEX	6	tons	2005
Theater AHU	1	Custom		3	hp	Unknown

The theater has its own dedicated air handler controlled by a thermostat in the house that is turned on during performances. This air handler is in a tight attic space and was not fully assessable, but because of the infrequency of use, it likely has a minor impact on the overall energy usage of the building.

The Youth Center has an erratic schedule and is now listed as temporarily closed for events. Despite this, the HVAC system is not set up to adjust its operation during unoccupied periods. Installing new, Wi-Fi enabled thermostats and BMS would allow Public Works staff to set schedules for the HVAC system and adjust those schedules based on the calendar of events, special events, and maintenance requirements.

Energy Generation

The pool has a 25-kW solar PV canopy on the roof of the building. The system was installed in 2013 and consists of 114 Canadian Solar CS6P-250P solar panels and 114 Enphase M215 micro inverters. At the time of the site visit, the City of Pinole did not have access to the Enphase monitoring system. Tetra Tech worked with Enphase and the solar installer to create an account for Pinole. Tetra Tech evaluated the production of the PV array using interval data from the utility meter. Based on these data, the system is producing at its expected capacity.

Lighting

The Youth Center meeting rooms are lit by 2-foot, one-lamp recessed T8 fluorescent fixtures. The backstage areas of the theater are lit by 4-foot, two-lamp T8 fixtures. The theater lobby is lit by 23-watt CFL fixtures. All interior lighting is controlled by manual switches. Nighttime observations showed that the lights are typically turned off during off hours.

The exterior of the building is lit by CFL fixtures mounted on the overhand above the front of the building. The exterior of the theater is lit by wall-mounted CFL sconces that are controlled by photocells to operate at night.

B.7 Post Office

Tetra Tech evaluated energy conservation measures for the Post Office. Table B.15 summarizes the savings and financial analysis of those measures.

Table B.15: Post Office Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard	\$2,000	\$0			
C.8	Interior LED Retrofit	\$19,700	\$2,903	70.6	1.47	5.0
C.9	Interior Occupancy Sensor Retrofit	\$1,100	\$725	17.9	6.59	1.3
C.12	Exterior Lighting Controls	\$300	\$109	2.7	2.80	0.2
Total		\$23,100	\$3,737	91.3	1.59	6.5

Building Operation

The Post Office provides facilities for the U.S. Postal Service (USPS). The building contains a large mail room for the sorting and distribution of mail and a small customer service area for the pick-up/drop-off of packages and access of post office (PO) boxes. The building is open to the public from 8:30AM to 5PM from Monday through Friday and from 9AM to 12PM on Saturdays. Postal workers use the building outside those hours, with the building being in partial use from 4AM to 8PM Monday through Saturday. Tetra Tech visited the building on November 9, 2023, to inspect the HVAC and lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.



Post Office and Exterior Lighting

Energy Usage

The building receives electric and natural gas service from PG&E. The USPS is the customer of these accounts, so Tetra Tech was not able to access the utility billing data. The energy conservation measures were evaluated using the electric and gas rates of City Hall and the Public Safety Building.

HVAC

The building's HVAC system consists of a large, packaged air handler on the roof of the building. The air handler uses a natural gas furnace and direct expansion (Dx) cooling. The unit is controlled by a digital, programmable thermostat in the mail room that does not have a schedule programmed. Table B.16 lists the HVAC equipment for the building.

Table B.16: Post Office HVAC List

Equipment	Qty	Make	Model	Cooling Capacity	Units	Heating Capacity	Units	Vintage
Rooftop AHU	1	Carrier	48HGD016AC-551AG	14	tons	250	kBtu/hr	2006

The Post Office HVAC system has no schedules programmed and it is difficult for Pinole staff to observe or modify the HVAC setpoints. Installing a new, Wi-Fi enabled thermostat and BMS would allow Public Works staff to set schedules for the HVAC system and adjust those schedules based on change to operation or maintenance requirements.

Lighting

The mail room and customer service areas are lit by lineal two-lamp T8 fluorescent fixtures. These fixtures are controlled by manual switches and the lights in the mail room and PO box area operate throughout the day and night.

The exterior of the building is lit by CFL fixtures mounted on the overhang above the front of the building and in wall sconces on either side of the front door. These fixtures operate on a continuous schedule. Either they do not have controls to turn them off during the day or the controls are broken.

All the lighting in the building is controlled by manual switches or not controlled at all. The lights remain on for large portions of the day and night even when the building is unoccupied or lightly occupied.

B.8 Fire Station #74

Tetra Tech evaluated energy monitoring for the Fire Station. Table B.17 summarizes the cost of that measure.

Table B.17: Fire Station #74 Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard	\$2,000	\$0			
Total		\$2,000	\$0			

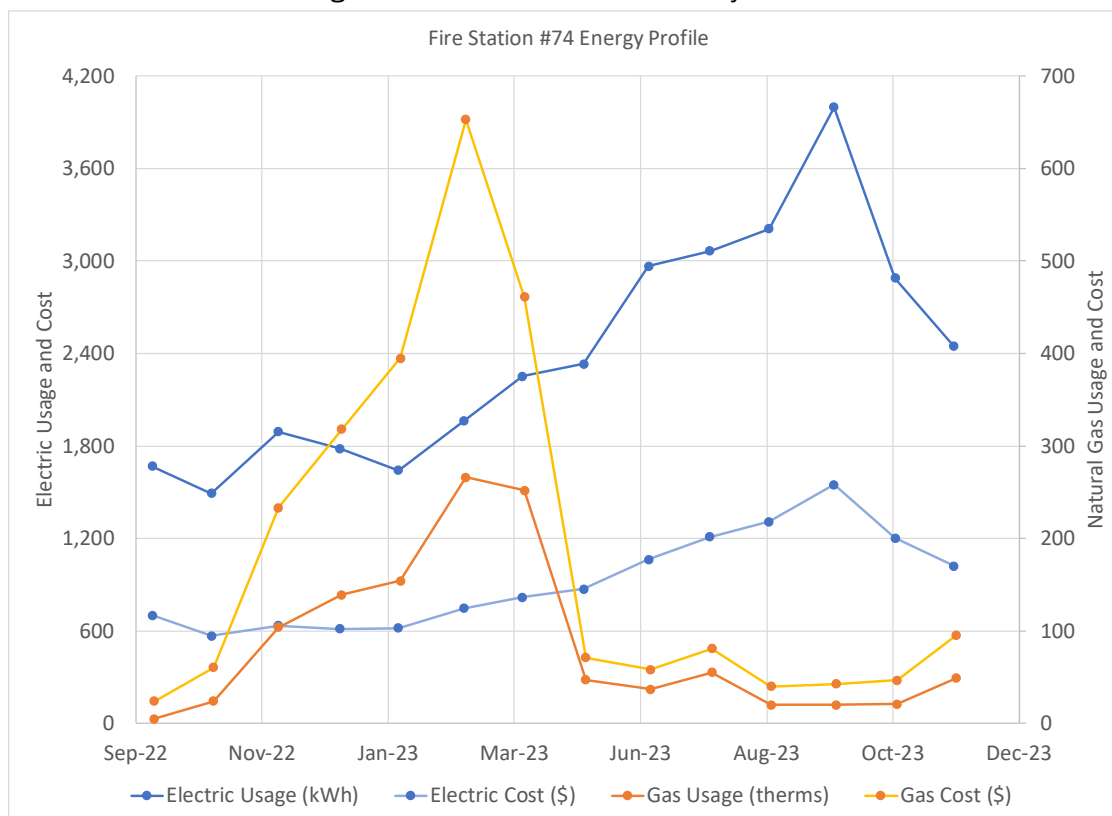
Building Operation

The Fire Station provides facilities for the Contra Costa Fire Department. It contains a garage, offices, lodging rooms, and meeting rooms for the crew. The building is in use for emergency response continuously but is often unoccupied for large portions of the day. Emergency power is provided by a 30-kW diesel generator located behind the building. Tetra Tech visited the building on November 9, 2023, to inspect the HVAC equipment, lighting equipment, and photovoltaic (PV) array and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 6317540399; Acct: 6317540498) purchases energy at the B10S rate, which has time-of-use energy charges and demand charges based on the highest power draw during any 15-minute interval of the monthly billing period. The natural gas account (SAID: 6275873005; Acct: 6275873834) purchases gas at the GNR1 rate. Figure B.11 shows the cost and usage on the utility bills for the site for the last 14 months. In total, the station has an annual net electric usage of 31,035 kWh and natural gas usage of 1,164 therms, for a total annual energy usage of 222 MBtu, energy cost of \$14,146, and an EUI of 51.5.

Figure B.11: Fire Station #74 Utility Profile



HVAC

The HVAC system consists of two ducted furnaces in the attic of the building. Each furnace is equipped with a ducted heat pump installed directly downstream of the heating unit, which is used for cooling. Each furnace/heat pump system is controlled by an individual non-programmable thermostat, though each unit serves multiple zones. The garage is heated by a natural gas-fired ceiling-mounted, radiant heater that the crew manually turns on during period of extreme cold weather. Table B.18 lists the HVAC equipment for the building.

Table B.18: Fire Station #74 HVAC List

Equipment	Qty	Make	Model	Capacity	units	Vintage
Furnace	2	Carrier	WeatherMaker 9200	150	kBtu/hr	2001
Heat Pump	2	ADP	HD03336D175B260300	3	tons	2001
Radiant Heater	1	Modine	PD 200AE0130	200	kBtu/hr	2001

Lighting

The building is lit by two-lamp T8 fluorescent fixtures controlled by manual switches. Most lights do not operate at night when the crew is asleep, but a third of the garage lights are left on for security.

B.9 Tiny Tots

Tetra Tech evaluated energy conservation measures for the Tiny Tots Building. Table B.19 summarizes the savings and financial analysis of those measures.

Table B.19: Tiny Tots Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.4	Energy Dashboard	\$2,000	\$0			
C.8	Interior LED Retrofit	\$3,400	\$428	9.0	1.26	0.6
Total		\$5,400	\$428	9.0	0.79	0.6

Building Operation

The Tiny Tots provides facilities for the City of Pinole's Pre-K youth program. It contains a large childcare room, an office, and a storage room. The building operates from 8:30AM to 3:30PM Monday through Friday with small variations in class schedule from season to season. Tetra Tech visited the building on November 9, 2023, to inspect the HVAC and lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.



Tiny Tots Childcare Room

Energy Usage

The building receives electric and natural gas service from PG&E. The electric account (SAID: 3735045069; Acct: 3735045137) is shared with the Swim Center. The natural gas account (SAID: 3776711005; Acct: 3776711801) purchases gas at the GNR1 rate. In total, the building has an annual natural gas usage of 1,164 therms and a small electric energy load, for an approximate annual energy usage of 191 MBtu, energy cost of \$2,584, and EUI of 48.5.

HVAC

The HVAC system consists of two small air handlers controlled by non-programmable thermostats in the childcare room. The AHUs use natural gas furnaces for heating and ducted heat pumps for cooling.

Lighting

The building is lit by one-lamp and four-lamp T12 fluorescent fixtures controlled by manual switches and pendant CFL fixtures in the childcare room. These lights are left on during operating hours and shut off upon closing.

B.10 Caretaker's Building

The Caretaker's Building is an old Victorian building that served as the residence for the Pinole Valley Park Caretaker. The building is currently unoccupied with no planned use. Tetra Tech visited the building on November 17, 2023, to inspect the lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building receives electric service from PG&E. The electric account (SAID: 4484683203; Acct: 4484683029) purchases electricity at the B1 rate. In total, the building has an annual electric usage of 3,267 kWh for a total annual energy usage of 11 MBtu, energy cost of \$1,189, and EUI of 3.1.

B.11 Faria House

The Faria House is an old Victorian building that is a historic landmark in Pinole. The building is currently unoccupied but serves as a restoration project for Pinole volunteers. Tetra Tech visited the building on November 17, 2023, to inspect the lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The building receives electric service from PG&E. The electric account (SAID: 4484683203; Acct: 4484683029) purchases electricity at the B1 rate. In total, the building has an annual electric usage of 713 kWh for a total annual energy usage of 2 MBtu, energy cost of \$358, and EUI of 1.0.

B.12 Pinole Valley Park

The Pinole Valley Park is 231-acre park and wilderness area at the south end of Pinole. The park contains a baseball field, two soccer fields, a dog park, skate park, and playground. Tetra Tech visited the park on November 17, 2023, to inspect the lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The site receives electric service from PG&E. The electric account (SAID: 2263576043; Acct: 2263576890) purchases electricity at the B1 rate. In total, the site has an annual electric usage of 526 kWh for a total annual energy usage of 2 MBtu and energy cost of \$286.

B.13 Fernandez Park

Tetra Tech evaluated a lighting project at Fernandez Park. Table B.20 summarizes the savings and financial analysis of that project.

Table B.20: Fernandez Park Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.17	Ballpark LED Retrofit	\$29,800	\$507	14.2	0.17	1.0
Total		\$29,800	\$507	14.2	0.17	1.0

Park Operation

The Pinole Valley Park is a 6-acre park in the heart of Pinole between the Youth Center and Senior Center. The park contains a baseball field, basketball court, picnic benches, maintenance shed, and playground. Tetra Tech visited the park on November 9, 2023, to inspect the lighting equipment and on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

The site receives electric service from PG&E. The ballpark electric account (SAID: 6069113784; Acct: 6069113914) and maintenance shed electric account (SAID: 7069113482; Acct: 706911350) purchases electricity at the B1 rate. In total, the site has an annual electric usage of 12,069 kWh for a total annual energy usage of 41 MBtu and energy cost of \$4,138.

Lighting

The park is lit by pole mounted 80-watt LED fixtures that are controlled by photocells to operate at night. The ballpark is lit by 1,500-watt metal halide fixture on tall poles to illuminate the entire field for games. These lights are turned on by Pinole staff during scheduled night games at the field. In total, they consume up to 8,200 kWh per year. Pinole is evaluating a project to replace the ballpark lights with LEDs. While this project would not produce enough energy savings to justify the cost, the energy savings could be an additional driver for the project.

B.14 Parking Lot Lighting

Tetra Tech evaluated a lighting measure for the Pinole parking lots. Table B.20 summarizes the savings and financial analysis of that measure.

Table B.21: Parking Lot Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.12	Photocell Repair	\$900	\$252	7.0	2.80	0.5

Parking Lot Operation

Pinole has public parking lots throughout downtown as well as illuminated parking lots associated with City Hall, the PSB, the Senior Center, the Youth Center, and the Swim Center. These parking lots see heavy use throughout the day and much less use at night except for the parking lot that is used by the Pinole Police Department. Tetra Tech visited the sites on December 14, 2023, to inspect the nighttime operation of the lighting equipment.

Energy Usage

Pinole has three electric utility account tied solely to parking lots:

- On Tennent Ave near the Youth Center (SAID: 1048223998; Acct: 1048223537)
- On the east side of Fernandez Ave near Pear Street (SAID: 9465139366; Acct: 9465139985)
- On the west side of Fernandez Ave that connects through to Tennent Ave (SAID: 4840156969; Acct: 4840156501).

These accounts purchase electricity from PG&E at the B1 rate. In total, these sites have an annual electric usage of 11,972 kWh for a total annual energy usage of 41 MBtu and energy cost of \$4,242.

Other parking lots lights are tied into the accounts for City Hall, the PSB, the Senior Center, and the Swim Center. The energy usage profile for those parking lots will be similar to the lots with dedicated meters.

Lighting

The parking lots use pole-mounted 80-watt LED fixtures that are controlled by photocells to operate at night. Tetra Tech found a significant number of lights operating during the day. Based on observations and meter data, 10% of the fixtures are running continuously.

B.15 Streetlighting

Tetra Tech evaluated a billing for Pinole streetlighting. Table B.22 shows the financial analysis of billing corrections.

Table B.22: Streetlighting Measure List

Section	Description	Project Cost	Cost Savings (\$/yr)	Energy Savings (MBtu/yr)	SIR	GHG Reduction (tons/yr)
C.18	Utility Bill Update	\$0	\$31,950			
Total		\$0	\$31,950			

Streetlighting Operation

Tetra Tech visited the sites on December 14, 2023, to inspect the nighttime operation of the lighting equipment. The streetlights are controlled by photocell to operate at night. Light level measurements showed that light levels on Pinole streets are consistent with the Illuminating Engineering Society (IES) recommended level of 10 lux.

Energy Usage

Pinole's streetlighting receives electric service from PG&E. All the streetlighting service agreements are under one PG&E account, #3857662222. The monthly charges are based on the estimated usage of the fixtures listed on the account. In total, these sites have an annual electric usage of 420,185 kWh for a total annual energy usage of 1,434 MBtu and energy cost of \$191,854. The service agreement numbers and rates under that account are listed in the following table:

Table B.23: Streetlighting Rates

SA ID	Rate	City/PG&E Owned
3857662002	LS1-A	PG&E
3853073720	LS2-A	City
3857662004	LS1-C	PG&E
3857662008	LS1-D	PG&E
3857662014	LS1-E	PG&E
3857662022	LS1-F	PG&E
3857662026	LS2-A	City
3857662351	LS2-A	City
3857662375	LS1-A	PG&E
3857662619	LS1-D	PG&E
3857662649	LS1-D	PG&E
3857662949	LS1-E	PG&E
3859273460	LS2-A	City
3857662791	LS2-A	City
3857662843	LS2-A	City

Lighting

The streetlights are high output fixtures mounted on 15-foot or 25-foot poles or mounted to utility poles. Most streetlights are LED fixtures. The fixtures mounted on utility poles at 20-ft above the road are 29-watt LEDs and the 25-foot pole-mounted fixtures are 73-watt LEDs. Tetra Tech observed a small number of fixtures on Monte Vista Drive, Monte Verde Drive, and Seville Court that use high pressure sodium (HPS) fixtures. It is unclear whether these are City-owned or PG&E-owned fixtures.

Over 90 percent of the streetlights in Pinole are LEDs, but the PG&E streetlighting bills list only 56 percent of City-owned fixtures as LED. The remaining fixtures on the bills are 70-watt to 400-watt HPS and metal halide (MH) fixtures. Pinole is being charged 50 to 80% more for the HPS and MH fixtures than they would for an equivalent LED.

C. Measure Descriptions

C.1 Senior Center Microgrid Design

Tetra Tech performed a renewable microgrid analysis for the Pinole Senior Center located at 2500 Charles Ave, in Pinole. Pinole currently uses this facility as a respite and cooling center during times of extreme weather. Pinole's goal is for this facility is to have a microgrid with sufficient generation assets to island (operate without commercial power) for 14 days or longer during any type of emergency. A design for a 110-kW carport PV array was developed by CSW/Stuber-Stoeh Engineering Group in 2023; however, no cost or economic payback information was provided with the design. BESS sizing was not provided with the PV design either. Tetra Tech performed a preliminary microgrid analysis to determine proper sizing of all generation assets required to support the Senior Center during routine operation and during an emergency.

Tetra Tech compiled information on building load interval data, expected PV production, energy storage performance, and utility rate tariffs to present several possible photovoltaic/energy storage (PV/BESS) combinations and their respective economic benefit. The load analysis was adjusted to account for future electric vehicle (EV) charging load, using several plausible load scenarios. Pinole indicated that they plan to install five Level 2 EV charging stations and make them available to seniors attending events at the Senior Center, as well as for general public use.

Energy Consumption and Rate Tariff

The Pinole Senior Center is served by PG&E for electric delivery and My Clean Energy (MCE) for electric generation. PG&E provides billing for both generation and delivery and utilizes the rate schedule for Business Medium Use (B10S) customers. This is a time-of-use rate schedule with current 2024 rates (all adders and non-bypassable charges included) summarized in Table C.1.

Table C.1: Senior Center Rate Schedule

Season and Time Period	Energy Charge (\$/kWh)	Demand Charge (\$/kW)
Winter Peak	\$0.28898	\$21.3
Winter Off Peak	\$0.25498	
Spring Super Off Peak	\$0.22098	
Summer Peak	\$0.3622	
Summer Part Peak	\$0.3042	
Summer Off Peak	\$0.2732	

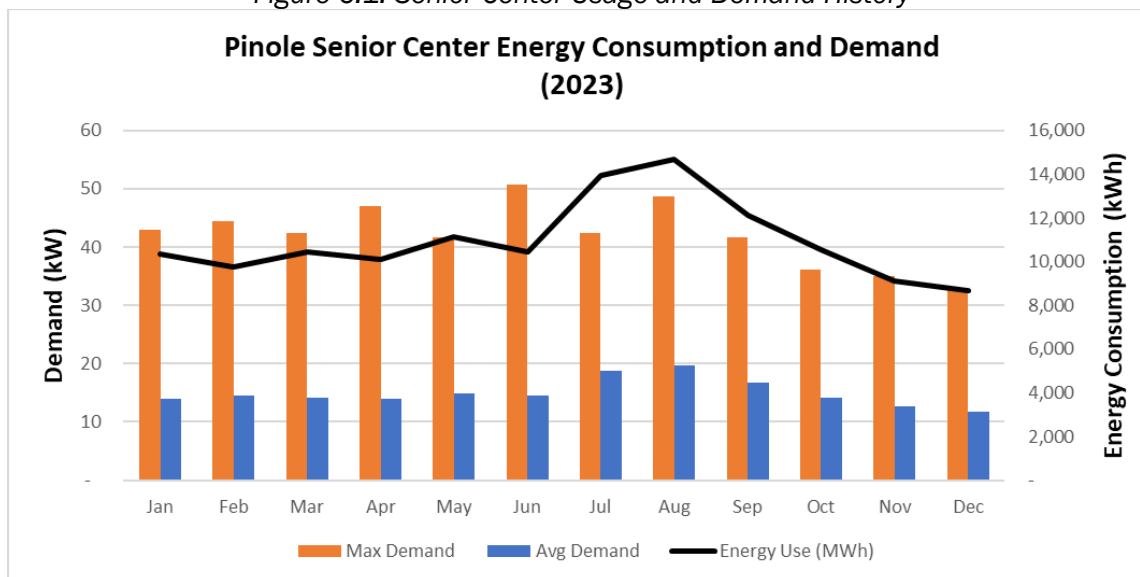
In 2023, the Senior Center consumed 131,313 kWh of electricity and incurred a maximum demand of 50 kW on June 15 at 11AM. The total cost of electric utilities for 2023 is \$48,846 as shown in Table C.2.

Table C.2: Senior Center Cost Breakdown

Customer Charges (\$240/month)	\$2,880
Energy Charges	\$36,126
Demand Charges	\$10,840
Total Annual Electric Bill	\$48,846

Figure C.1 depicts the total monthly energy use, maximum demand, and average monthly demand. Monthly energy consumption varies from 9,000 kWh to 15,000 kWh. The maximum demand, which billing is based on, ranges from 33 to 51 kW. The average demand when the facility does not have events going on is 10 to 15 kW. The highest demand occurs during the summer when air conditioning loads are greatest.

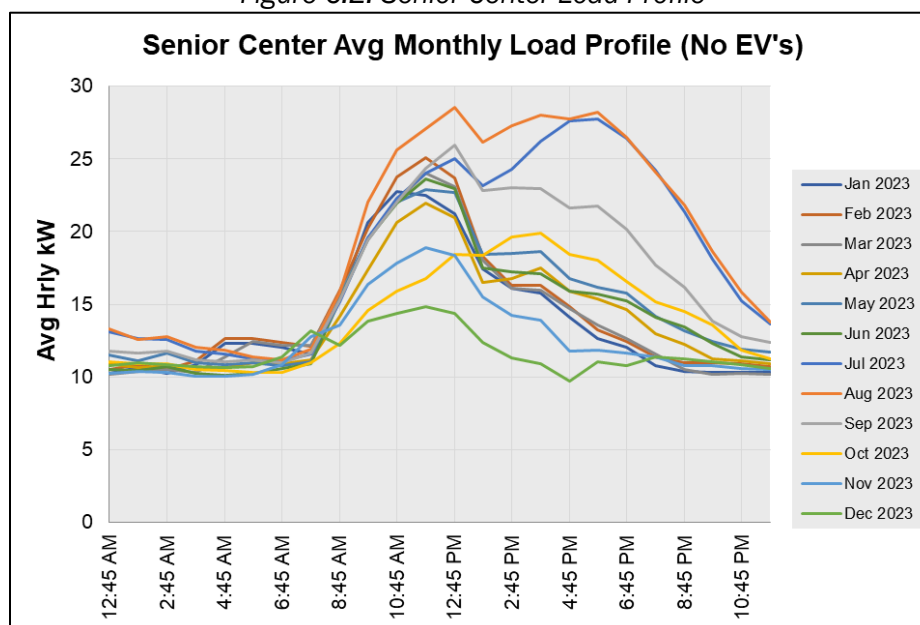
Figure C.1: Senior Center Usage and Demand History



Load Profile

It is critical to understand how and when energy is used in a facility in order to properly design renewable and energy storage assets. The load profile indicates when building demand begins to ramp up, peak, and taper off during the day. Figure C.2 depicts the average daily load profile by month for the Senior Center for 2023 loads; this does not yet include anticipated loads from EV charging.

Figure C.2: Senior Center Load Profile



The current load profile data indicate that building load ramps up quickly starting around 8AM, reaches a peak around 1PM, and tapers off quickly. Nighttime demand remains consistent between 12 to 15 kW. The Senior Center currently hosts most activities during morning hours. During the summer, there are some extended programs in the afternoon and building load does not begin to taper off until around 5PM. In the summertime,

there are also occasional evening events which run from around 5PM to 9PM at the Senior Center; however, these events do not occur on a routine basis.

Load Profile with EV Charging

The Senior Center does not currently have EV charging stations; thus, the additional load that will be incurred is not yet known. Pinole plans to install five Level 2 EV charging stations that will ultimately be powered by the carport PV system. It is difficult to predict exactly what local demand for the EV charging stations will be and how frequently they will be used; thus, Tetra Tech considered several scenarios.

1. Scenario #1 – EV charging stations are utilized only during events at the Senior Center and stations are only occupied half of that time.
2. Scenario #2 – EV charging stations are utilized only during events at the Senior Center but are fully occupied during that time.
3. Scenario #3 – EV charging stations are made available to the general public as well as Seniors. EV chargers remain fully occupied during the hours of 8AM to 4PM. Charging after 4PM is restricted because of higher peak period rates during this time.
4. Scenario #4 – EV charging stations are made available to the general public as well as Seniors. EV chargers remain fully occupied during the hours of 8AM to 8PM. Charging is allowed during peak periods.

Each Level 2 EV charging station will draw approximately 7 to 11 kW of power while in use. For the purposes of this analysis, 10 kW is the assumed power draw. Table C.3 depicts the impact of the additional load from EV charging.

Table C.3: Senior Center Load

	Scenario	Annual Load (kWh)	Average Demand (kW)	Peak Demand (kW)
0	Building Only	131,313	15	50
1	Building + ½ EV use during events	171,328	20	76
2	Building + full EV use during events	211,343	24	101
3	Building + EV use 8AM to 4PM	277,313	32	101
4	Building + EV use 8AM to 8PM	350,313	40	101

If the five EV chargers are in full use at the same time, it will double the facility's peak demand from 50 kW to 101 kW. The additional demand charges can be mitigated with sufficient battery capacity. The additional energy (kWh) cost can be recovered by charging customers a modest rate to charge their vehicles.

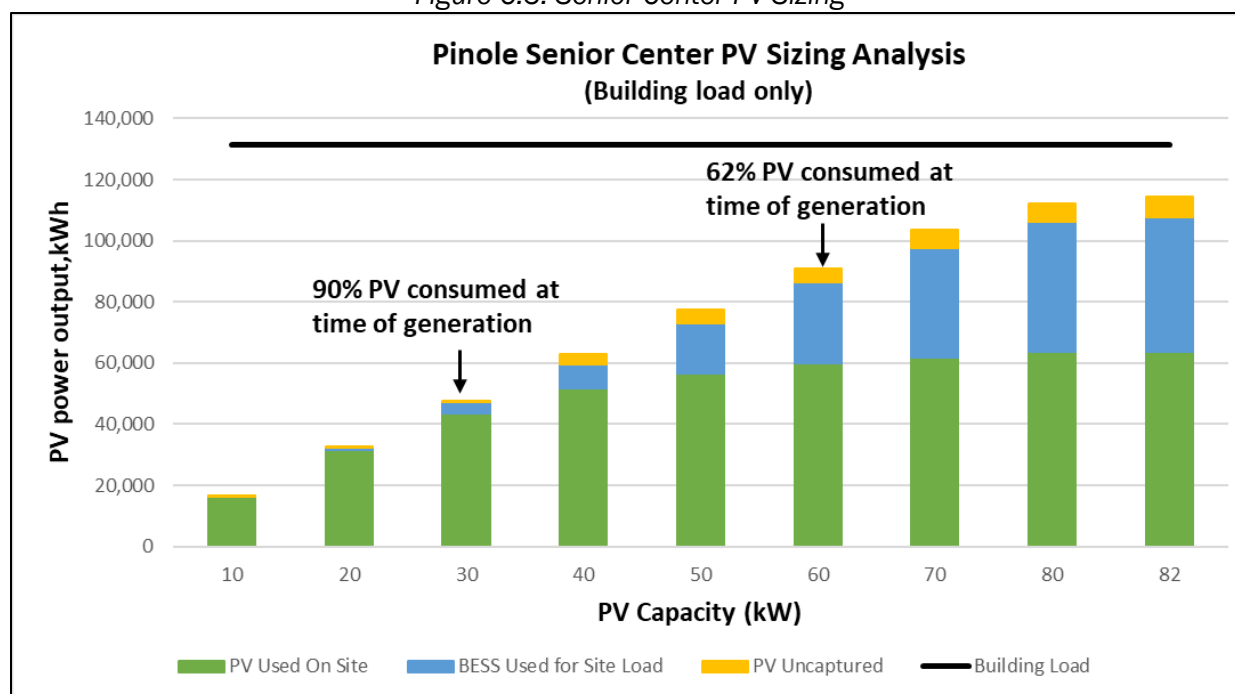
The most significant impact that EV chargers have on the microgrid design is that the PV capacity will not be able to be sized for net zero capacity. PG&E limits the capacity of installed PV at 50 percent over the current annual load. Scenario 4 represents full EV charging for 12 hours a day, which would increase the annual load by 267%. PV cannot be installed at a sufficient capacity to fully meet this load, per PG&E net metering rules. This impact is explained further in the following section.

PV/BESS Sizing Analysis

The PV analysis was performed by evaluating how solar production would be utilized at a range of PV capacities to serve the current annual building load (not including EV charging). The analysis includes pairing the PV with a properly sized BESS, such that most of the surplus PV is stored, rather than exported back to the grid. The new PG&E net billing tariff (NBT) that went into effect in April 2023 is much less economically favorable for exporting PV back to the grid than the NEM 2.0 tariff. PG&E reimburses PV export at the utility avoided cost, which varies on an

hourly basis, but averages \$0.08/kWh. The average energy rate Pinole is paying at the Senior Center is \$0.28/kWh. Thus, this microgrid design seeks to make maximum economic use of all PV generated by consuming the majority of the renewable power on site. Figure C.3 displays the PV power utilization for capacities ranging from 10 kW to 82 kW (the net zero capacity for current load). The PV power that is consumed at the time of generation is shown in green; the blue bar represents PV power that is stored in the BESS and dispatched later; the yellow bar represents the small amount of PV that must be exported back to the grid for reduced retail credit. The black solid line represents the total annual building load, which remains consistent for every scenario. For PV capacities ranging from 10 to 40 kW, there is not a significant amount of surplus PV power that is not consumed at the time of generation. Beyond 40 kW, the system will generate a lot of surplus power, requiring larger BESS and inflating the overall project cost.

Figure C.3: Senior Center PV Sizing



The net zero PV capacity and corresponding BESS requirements are presented in Table C.4 for all of the load scenarios, with and without EV charging.

Table C.4: Senior Center Production and Storage Breakdown

	Scenario	Net Zero PV Capacity (kW)	Required BESS Capacity (kWh)
0	Building Only	82	240
1	Building + ½ EV use during events	106	320
2	Building + full EV use during events	130	375
3	Building + EV use 8AM to 4PM	171	330
4	Building + EV use 8AM to 8PM	216	475

Since PG&E has firm capacity limits of 150% beyond the current building load, the remainder of this PV analysis will use 123 kW as the target PV capacity.

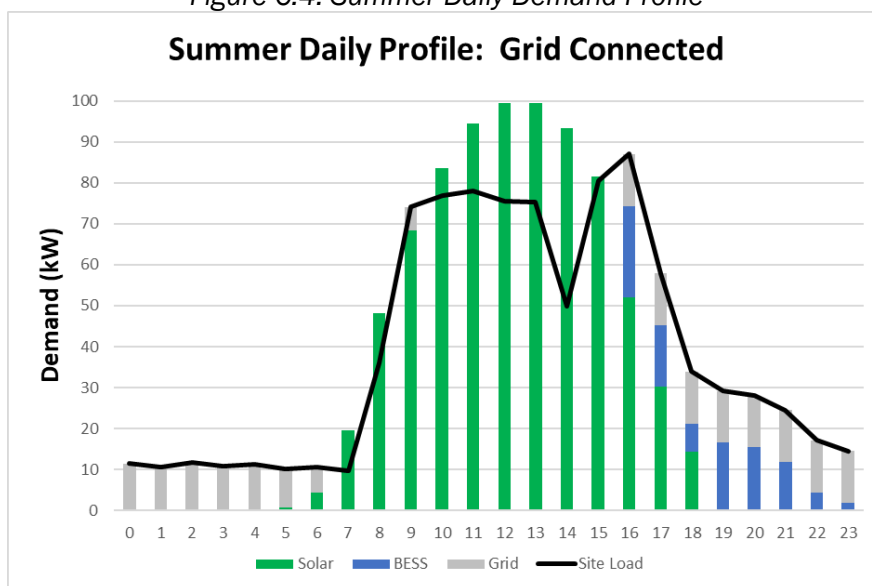
Recommended Microgrid Design

Tetra Tech recommends selecting the maximum PV capacity that PG&E will allow, which is 123 kW. The final analysis was run using 123 kW PV, 279 kWh BESS, and assumed loads from Scenario #2 which represents full EV charging while events are being held at the Senior Center. The BESS capacity is derived from the actual battery

hardware product offered by Elexity in conjunction with its microgrid controls and building management software. This is a packaged system which accomplishes several purposes including routine energy management for the building, demand management utilizing HVAC setpoints and battery discharge, and microgrid islanding controls. Elexity also offered a larger BESS capacity of 500 kWh, but that capacity far exceeds the requirements for the recommended microgrid system.

The 123-kW PV system will produce more power (shown in green) than the site requires during the summertime, as depicted in Figure C.4. The battery will store the surplus and dispatch that power beginning at 4pm in order to displace expensive grid power purchases during peak period (4PM to 9PM). Loads throughout the day may fluctuate dramatically as vehicles begin and end EV charging.

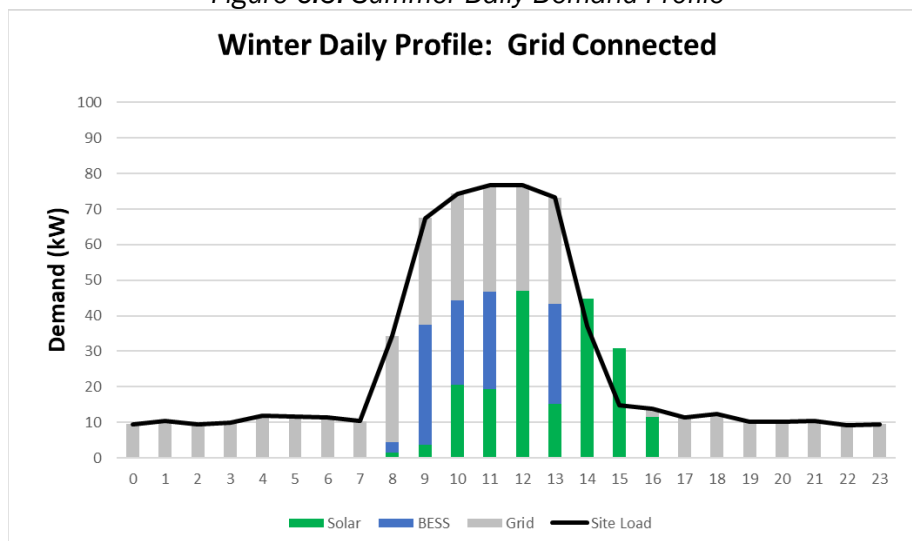
Figure C.4: Summer Daily Demand Profile



During the summer daytime hours, there should be ample PV power to cover all daytime EV charging loads. This recommended microgrid design uses battery to peak shave and displace some of the building load during peak periods. However, the BESS is not sufficient capacity to cover EV loads during peak period. Thus, if Pinole would like to allow for EV charging during peak hours, Tetra Tech recommends increasing the customer EV charging rate from \$0.30/kWh to \$0.40/kWh.

During the winter, the PV output is significantly reduced and is not sufficient to serve the entire daytime load, including the EV charging load. Thus, Pinole will need to draw power (as shown in gray on Figure C.5) from PG&E at almost all times of the day and night in order to supplement PV and BESS output.

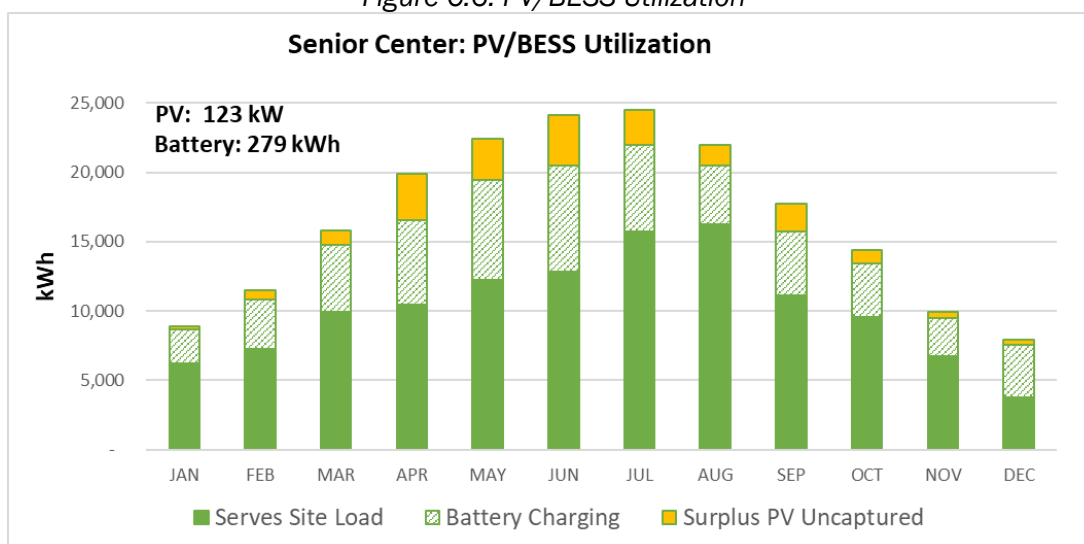
Figure C.5: Summer Daily Demand Profile



During the winter months, the BESS is primarily used to mitigate demand spikes during the day which are incurred by EV charging. The supplemental grid power is needed to serve the EV charging (kWh) requirements; however, Pinole will be able to recover the energy (kWh) cost by passing that cost on to the EV customers.

The PV power produced annually from the 123-kW carport PV array is estimated at 199,200 kWh, which will offset around 94 percent of the total load, estimated at 211,300 kWh including the increase from EV charging during events at the Senior Center. A PV capacity of 123 kW is close to the net zero requirement for the site; however, only 61 percent of the PV power can be consumed on site at the time that it is generated, as indicated by the solid green bar in Figure C.6. The 279-kWh BESS will store another 30% of the PV power, as indicated by the green shaded bar in Figure C.6. This battery capacity is sufficient to store all the surplus PV power in the winter months but does not store all the surplus power in the summer. About 9 percent of the PV power is expected to be exported back to the grid for net metering credit. There is also opportunity for Pinole to further utilize this surplus PV power during the day to accommodate more EV charging for the public.

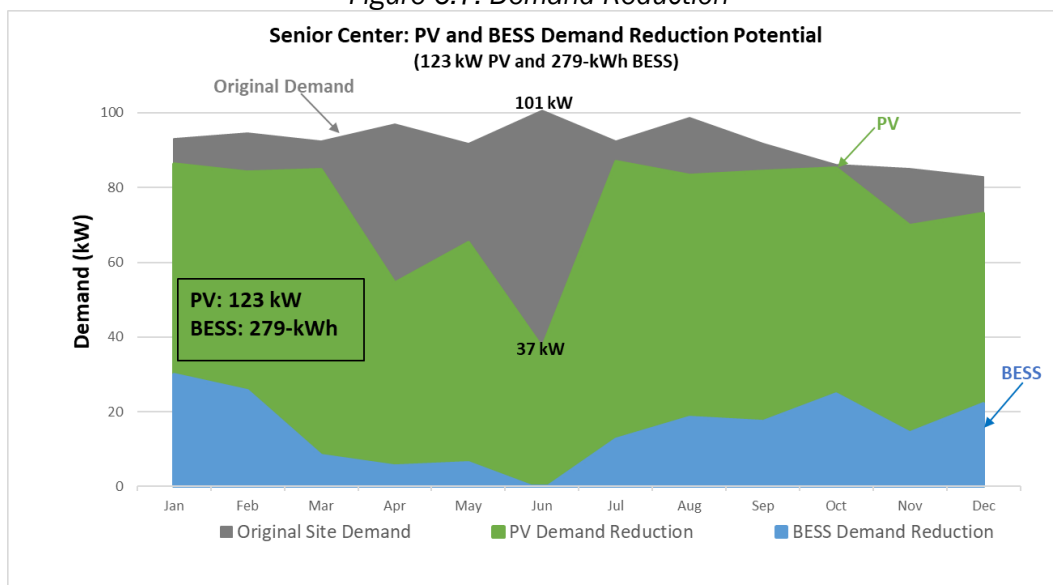
Figure C.6: PV/BESS Utilization



The PV and BESS system also have a significant impact on reducing overall demand for the site as depicted in Figure C.7. The 123-kW PV array alone reduces site demand by around 10 kW during the winter months, and 30 to 40 kW during the summer months. The BESS offers a significant peak shaving advantage to the system and is estimated to

secure another 50 to 60 kW of demand reduction each month. The battery helps to triple the amount of demand savings that PV alone would have provided. Battery storage can be deployed on cloudy days when solar PV output is decreased, such that the cloud cover does not erode the demand reduction savings the system otherwise would have yielded. The battery is also dispatched during times of EV charging in order to avoid sharp demand spikes. Peak shaving during winter months occurs mainly during the hours of 9AM to 1PM, while peak shaving during the summer months occurs during peak period of 4PM to 9PM.

Figure C.7: Demand Reduction



Microgrid Emergency (Islanding) Operation

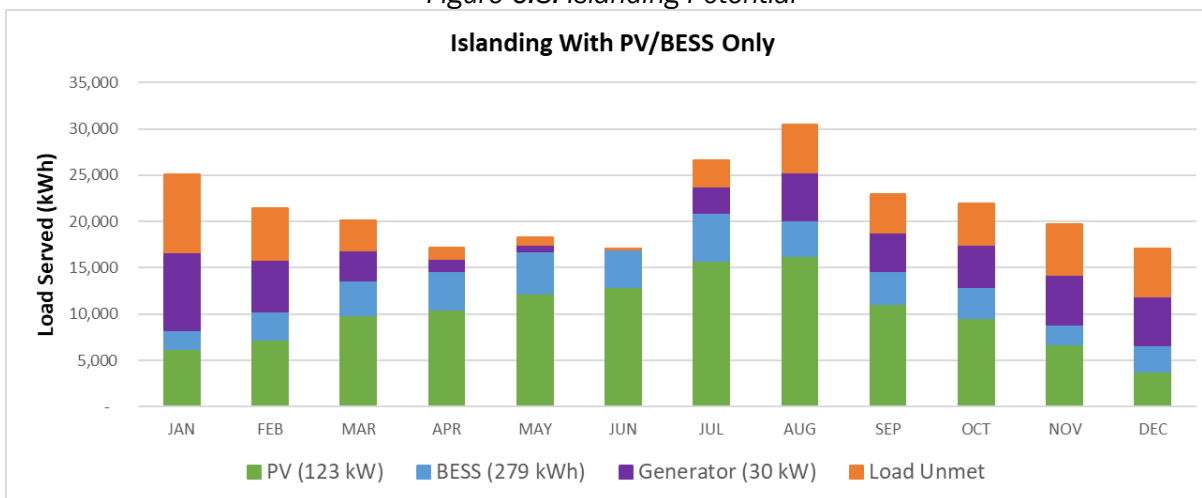
In the absence of commercial power, the microgrid controller will sense a voltage drop in the distribution system. The automatic transfer switch will engage and will isolate the Senior Center electrical infrastructure from PG&E's main electrical feed. At this point, the microgrid control system will switch into "island" mode and will power on the generator. The generator is sized at 30 kW, with the intent of mainly carrying evening and nighttime loads after the PV has waned and the BESS is depleted. However, the generator will be required to start at the onset of islanding operation, because the generator will initially be the anchor resource, or grid-forming electrical source, in the absence of commercial power. When system voltage is re-established, the PV inverters can power back on and continue to work in conjunction with the BESS. If PV output is sufficient to carry the load at that time, the generator may then power down and let the PV and BESS continue to serve the site load.

Depending on the time of year and time of day that the outage occurs, the PV output may be insufficient to support the building load and EV charging requirements. For this reason, Tetra Tech recommends that EV Charging Stations are deactivated and not used while the microgrid is in emergency operation. A decision to activate the EV Charging Station(s) can be made after microgrid islanding operation is stable and there is assured power for all building requirements. The primary objective of the microgrid will be to power building HVAC and lighting systems in order to keep occupants safe and comfortable during an emergency. EV charging is a secondary goal if there is sufficient power.

Figure C.8 illustrates the reliance on each microgrid asset during islanding, considering the time of year that the emergency occurs. For instance, reduced PV output (green) during the winter months of December and January will lead to an increased dependence on the gas generator to make up the load during a winter emergency. In the spring, there is very little reliance on the gas generation asset since PV output is higher and the site load has not yet increased substantially because of hotter weather. In the summer, when the Senior Center is most likely to be needed as a cooling center, PV output is high, but the building air conditioning load is also high. Thus, the generator (purple) will also be required during the hottest summer months. The "Load Unmet" in orange is the EV

charging load. A judgment call will need to be made on whether the microgrid assets can support EV charging in addition to the required building load during an emergency.

Figure C.8: Islanding Potential



One of the main benefits of this microgrid design is that this system can operate indefinitely without commercial power as long as the natural gas supply is not interrupted.

Project Costs

Project costs are based on current market rates for commercial solar installations as well as estimates provided by Elexity for battery storage and controls. There is a licensing fee for ongoing microgrid/BMS controls. The total fee is \$50,000 for 5 years for Pinole's license. That fee can be spread across all energy projects that are utilizing the controls and software. For the purposes of this analysis, the Senior Center microgrid assumes 20% of this cost. There is an upfront hardware fee of \$35,000 for microgrid controls to enable the system to operate in island mode. That cost is reflected in the Project Cost Summary in Table C.5. The cost for EV Charging Stations includes three stations: two of those stations will be dual port, thus there are a total of five charging ports available.

Table C.5: Cost Estimate

Item	Quantity	Unit	Cost per Unit	Cost
Carport PV	123	kW	\$2300	\$282,900
BESS	279	kWh	\$663	\$184,977
Controls	1	--	\$35,000	\$35,000
EV Charging Stations-Level 2	3	--	\$15,000	\$45,000
Gas Generator	1	30-kW	\$15,000	\$15,000
TOTAL				\$562,877

Economic Analysis

The economic analysis for the recommended microgrid system was run using the following assumptions:

1. Project life = 25 years
2. Escalation rate (for O&M and utilities) = 3%
3. Discount rate = 5%
4. Investment Tax Rebate (ITC) Rebate = 30% on microgrid project costs (PV, BESS, controls)

There is a possibility of acquiring more incentives through PG&E's Self Generation Incentive Program (SGIP) to pay down the cost (or completely cover the cost) of the BESS. The SGIP program is currently in Step 5 of seven steps. The value of Non-Residential Storage is \$0.85/watt-hour (Wh) and currently has a waitlist. The value of the incentive, if the project qualifies for "Equity Resilience," is \$1.00/Wh and this program is currently open. The microgrid project should qualify for "Equity Resilience" if there is medical oxygen or lifesaving equipment at the Senior Center. It would also qualify if the Senior Center was located in Tier 2 or 3 Wildfire threat area, or if the facility had been affected by two or more Public Safety Power Shutoffs; Pinole has indicated that these last two criteria do not apply. The microgrid installer should submit an SGIP application for BESS incentives as soon as the final project design is complete.

Tetra Tech completed the economic analysis without the added incentive from SGIP, just in case this project does not meet the California state criteria. The economics are favorable, even without the added BESS incentive.

Table C.6: Economic Analysis

Component	Value
Cost Savings:	
PV Savings (kWh)	\$37,171
BESS-Peak Shaving (kW) Savings	\$15,496
BESS-Energy (kWh) Value	\$5,589
Exported PV (kWh) Value	\$4,488
<i>Subtotal</i>	<i>\$62,744</i>
EV Charging Revenue	\$24,009
Investment Tax Credit (30%)	\$150,863
Economic Indicators:	
Simple Payback	4.7 years
SIR	3.67
Net Present Value	\$1,115,173

C.2 Wastewater Treatment Plant Microgrid

Tetra Tech performed a renewable microgrid analysis for the Pinole WWTP located at 11 Tennant Ave in Pinole. The Pinole WWTP is considered critical infrastructure to keep operational at all times, including during any type of emergency that may cause a long-term power outage. The Pinole WWTP has some microgrid infrastructure in place, allowing for isolation from the main PG&E grid. The backup generation assets currently consist of three diesel generators (905 kW, 905 kW, 800 kW) and a small CHP system (65 kW), powered by biogas generated on site. Pinole's goal for this facility is to add PV and BESS, which will serve to advance Pinole's clean energy goals, reduce overall utility costs, and reduce reliance on diesel generation assets during an emergency. Tetra Tech performed a preliminary analysis to determine the technical and economic feasibility of installing renewable generation assets at the WWTP.

Tetra Tech has compiled information on building load interval data, expected PV production, energy storage performance, and utility rate tariffs to present several possible PV/BESS combinations and their respective economic benefit. There is very limited real estate to install solar arrays at the WWTP; thus, it is not anticipated that the renewable design will reach net zero capacity.

Energy Consumption and Rate Tariff

The Pinole WWTP is served by PG&E for electric delivery and MCE for electric generation. PG&E provides billing for both generation and delivery and utilizes the rate schedule for Business Medium Use (B10S) customers. This is a time-of-use rate schedule with current 2024 rates (all adders and non-by-passable charges included) summarized in Table C.7.

Table C.7 PG&E Rate Schedule B10S

Season and Time Period	Energy Charge (\$/kWh)	Demand Charge (\$/kW)
Winter Peak	\$0.28898	\$21.3
Winter Off Peak	\$0.25498	
Spring Super Off Peak	\$0.22098	
Summer Peak	\$0.3622	
Summer Part Peak	\$0.3042	
Summer Off Peak	\$0.2732	

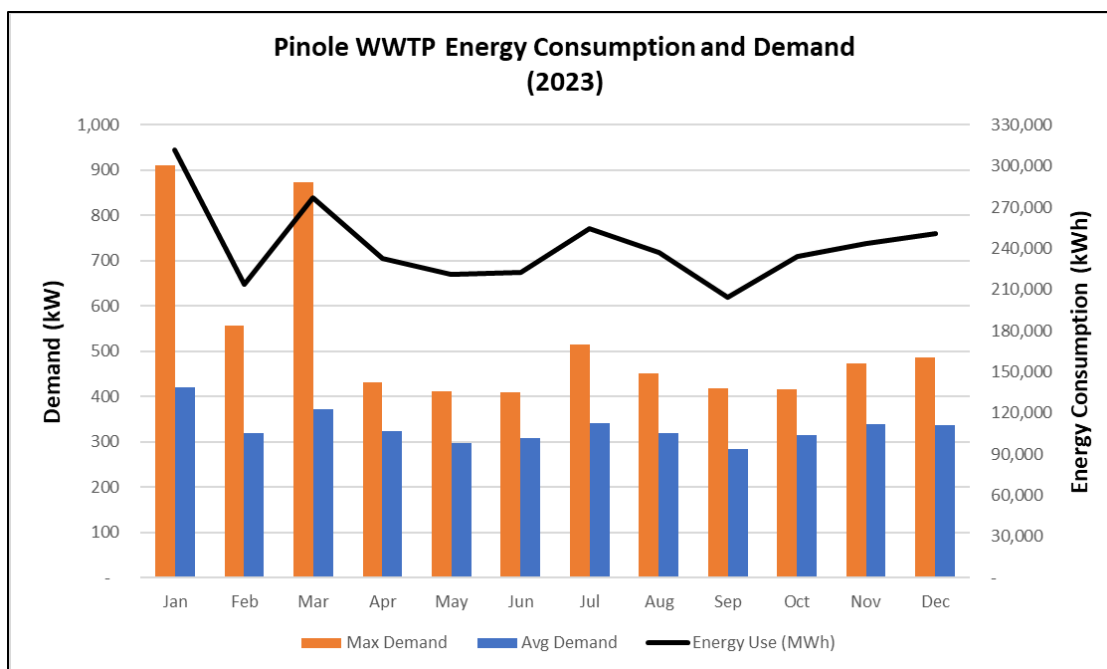
In 2023, the WWTP consumed 2,903,497 kWh of electricity and incurred a maximum demand of 910 kW on January 14 at 10AM. The total cost of electric utilities for 2023 is \$929,963 as shown in Table C.8.

Table C.8 WWTP Annual Electric Costs

Customer Charges (\$240/month)	\$2,880
Energy Charges	\$791,130
Demand Charges	\$135,954
Total Annual Electric Bill	\$929,963

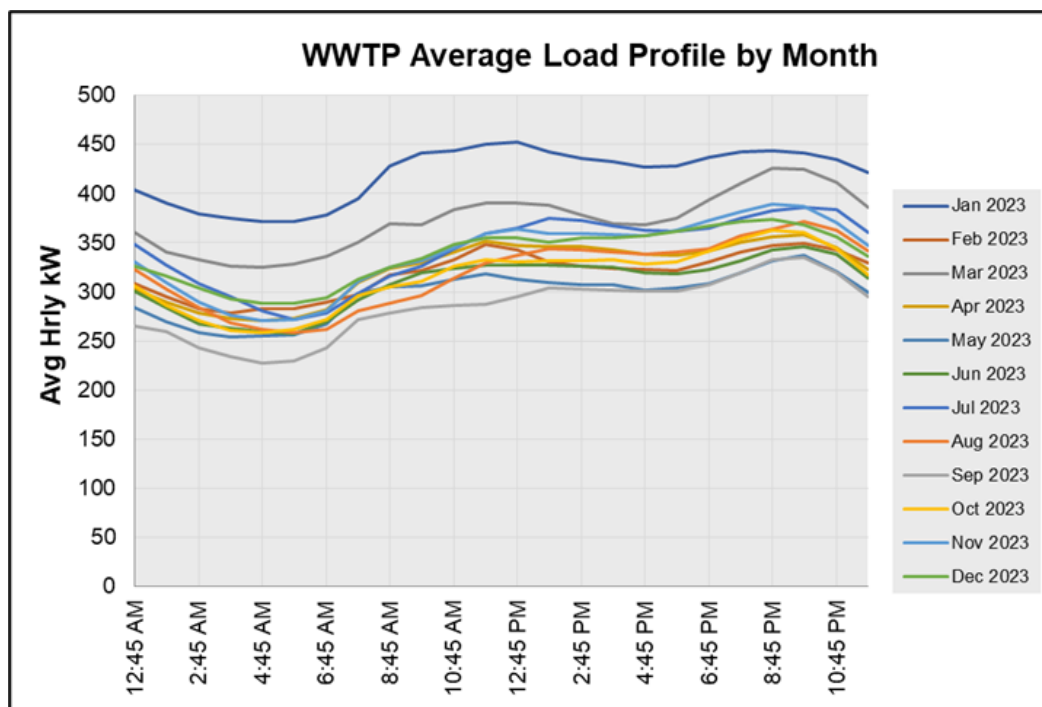
Figure C.9 depicts the total monthly energy use, maximum demand, and average monthly demand. Monthly energy consumption varies from 200,000 kWh to 315,000 kWh. The maximum demand, which billing is based on, ranges from 400 kW to 910 kW. The average demand of the WWTP is 330 kW. The large demand spikes occur during severe storms when the WWTP may be required to process large volumes of stormwater in addition to normal wastewater intake.

Figure C.9 WWTP Energy Consumption and Demand



It is critical to understand how and when energy is used in a facility in order to properly design renewable and energy storage assets. The load profile indicates when facility demand begins to ramp up, peak, and taper off during the day. Figure C.10 depicts the average daily load profile by month for the WWTP for 2023 loads.

Figure C.10 WWTP Load Profile



The load profile indicates that there is not much variance in load throughout the day or night. There are two slight peaks in load during the day, one around 12PM and the other around 9PM. The WWTP appears to maintain steady state operation with a mostly consistent flow and processing load. The minimum demand does not typically fall below 250 kW and average demand is slightly higher at 330 kW. The months of January and March experienced slightly higher average demands of around 400 kW because the plant processed higher volumes of rainwater.

Potential Locations for PV Arrays

The WWTP has limited options for installing PV arrays inside the fence-line of the property. Tetra Tech considered three different locations for installing PV arrays: one location inside the fence-line and two locations just outside the fence-line. The first option is a carport array as shown in Figure C.11, which is estimated at 50 kW.

Figure C.11 Carport PV Location



The second option is a ground-mount PV array located in the public park area to the southwest of the WWTP as shown in Figure C.12. This is the largest open field area nearest the WWTP and has the added benefit of being nearly due south facing, ideal for maximum solar production. This space is estimated to support an estimated 175-kW PV array. There would be more available space here if the trees on the southern edge were removed. If a ground-mount PV array is installed here, the area will need to be cordoned off from the public for safety purposes.

Figure C.12 Southwest Ground-Mount PV Array



The third option for a PV array is along the northeast perimeter of the WWTP, adjacent to the public pathway that runs along the canal, as shown in Figure C.13. If the PV is able to cover the pathway, there is sufficient space to accommodate a 271-kW array without moving too close to the canal embankment. However, this area will no longer be suitable for public access and will need to be cordoned off for safety purposes.

Figure C.13 Northeast Ground-Mount PV Array



Tetra Tech did not evaluate the potential of installing solar over process areas to avoid interfering with the microbial processes of waste treatment.

Table C.9 displays the three different options for PV, area available, estimated capacity, and expected PV production. The PV analysis considers various combinations of the following three PV arrays.

Table C.9 Summary of PV Locations and Capacity

	Location	Estimated PV Capacity (kW)	Solar Production (kWh)
1	Carport array	50	75,931
2	Southwest ground mount array, in open park area	175	282,410
3	Northeast ground mount array, along canal pathway	271	422,675

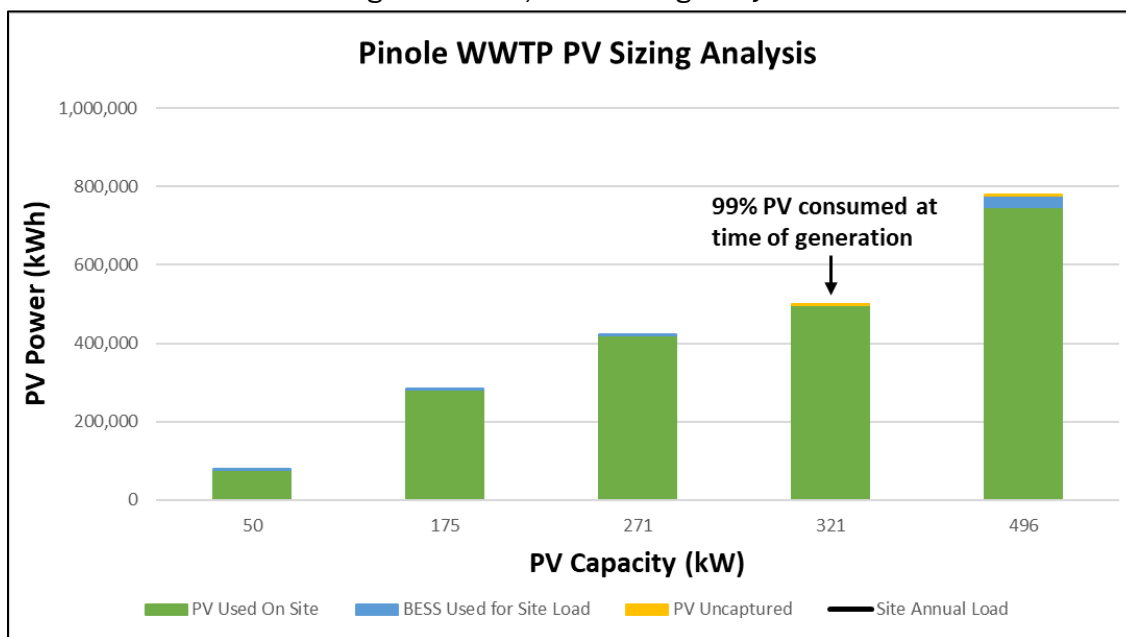
PV/BESS Sizing Analysis

The PV analysis was performed by evaluating how solar production would be utilized at a range of PV capacities to serve the current annual WWTP load. The analysis includes pairing the PV with a properly sized BESS, such that most of the surplus PV is stored, rather than exported back to the grid. The new PG&E NBT that went into effect in April 2023 is much less economically favorable for exporting PV back to the grid than the NEM 2.0 tariff. PG&E reimburses PV export at the utility avoided cost, which varies on an hourly basis, but averages \$0.08/kWh. The average blended rate Pinole is paying for power at the WWTP is \$0.32/kWh. Thus, this microgrid design seeks to make maximum economic use of all PV generated by consuming the majority of the renewable power on site.

The net zero PV capacity for the WWTP is 1.8 MW; this is the size the PV array needs to be to produce the same amount of power (on an annual basis) that the WWTP consumes. The maximum amount of PV that could be installed using all three locations described in Table C.9 is 496 kW. This is less than 30% of the capacity required to reach net zero. Thus, this analysis will only examine PV capacities up to 496 kW.

Figure C.14 displays the PV power utilization for capacities ranging from 50 kW (the smallest PV array) to 496 kW (the combination of all three PV locations). The PV power that is consumed at the time of generation is shown in green; the blue bar represents PV power that is stored in the BESS and dispatched later; the yellow bar represents the small amount of PV that must be exported back to the grid for reduced retail credit. For all PV capacities analyzed, 96 to 99% of the PV power is consumed at the time of generation. Thus, battery capacity is not required to store surplus PV in any of the scenarios evaluated. However, the battery can be used in a peak shaving capacity

Figure C.14 PV/BESS Sizing Analysis



in order to trim demand charges on a routine basis. Peak shaving capability will be further explained in the following sections.

The various PV capacities and corresponding BESS requirements are presented in Table C.10.

Table C.10 WWTP PV/BESS Sizing Scenarios

	Scenario	Total PV Capacity (kW)	Required BESS Capacity (kWh)	Percent WWTP Load Offset
1	Carport	50	279	3%
2	SW array	175	279	10%
3	NE array	271	550	15%
4	NE array + carport	321	550	17%
5	Carport + NE array + SW array	496	550	27%

Recommended Microgrid Design

Tetra Tech recommends installing the maximum PV capacity studied in this analysis, which is 496 kW. This will involve installing PV in at least two areas adjacent to the WWTP that are currently publicly accessible. This may present a challenge for Pinole to cordon off this area and restrict public access. However, in order to install enough PV to be impactful and useful for Pinole's WWTP, more land is required than what is available inside the fence-line of the facility.

The final analysis used for design purposes in this study is 496 kW PV paired with 575 kWh BESS. The BESS capacity is derived from the actual battery hardware product offered by Elexity in conjunction with its microgrid controls and building management software. This is a packaged system which accomplishes several purposes including routine energy management for the building, demand management utilizing HVAC setpoints and battery discharge, and microgrid islanding controls. The Elexity controls system is also quoted for the Senior Center microgrid controls and BMS controls for at least three other Pinole buildings. In this manner, the Elexity licensing fee of \$50,000 for five years can be spread across multiple facilities, saving Pinole significant upfront capital investment.

The routine operation (or grid-connected mode) of the microgrid was modeled for a typical summer day in Figure C.15 and typical winter day in Figure C.16. The 496-kW PV system will produce only slightly more power (shown in green) than the site requires during the summertime. There is not a significant amount of surplus power for the battery to charge. However, the combination of solar and battery is able to secure at least 100 kW of consistent demand reduction in the summertime.

Figure C.15 Routine Microgrid Operation: Summer

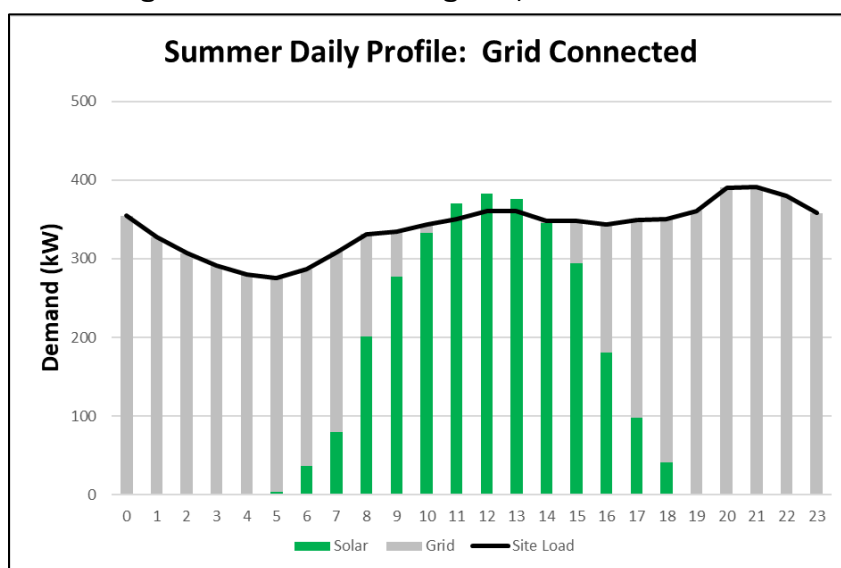
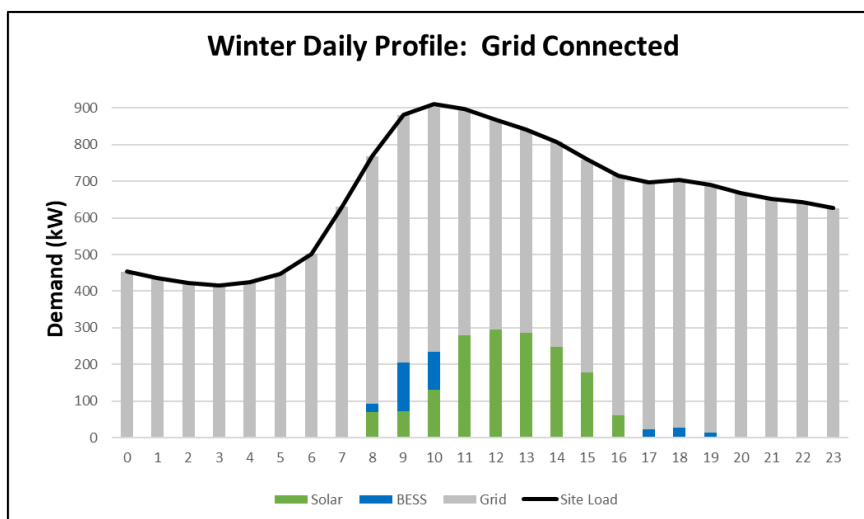


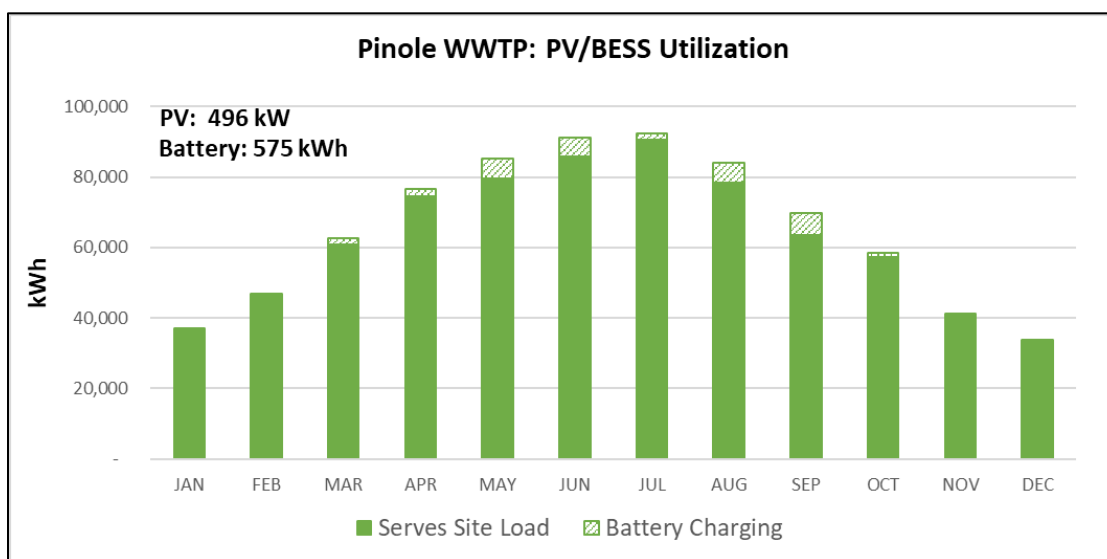
Figure C.16 Routine Microgrid Operation: Winter



During the winter, the PV output is significantly reduced and only offsets a small portion of the daily load. Thus, Pinole will need to draw power (as shown in gray on Figure C.16) from PG&E at almost all times of the day and night in order to supplement PV and BESS output. During the winter months, the BESS is primarily used to mitigate demand spikes incurred during times of increased wastewater processing from storms.

The PV power produced annually from the three PV arrays is estimated at 781,000 kWh, which will offset around 27% percent of the total WWTP load. Nearly all of the PV power can be consumed on site at the time that it is generated, as indicated by the solid green bar in Figure C.17. The 575 kWh BESS will store the surplus PV power, mainly in the summer months, as indicated by the green shaded bar in Figure C.17. This battery capacity is sufficient to store all the surplus PV power year around.

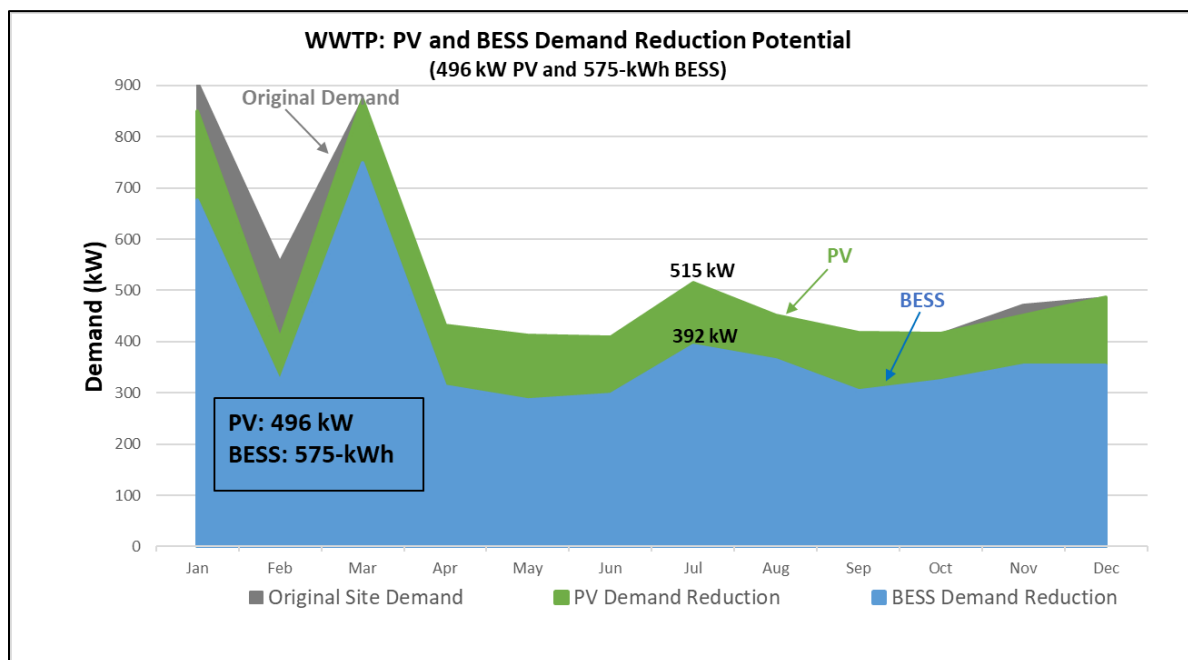
Figure C.17 PV-BESS Utilization



The PV and BESS also have a significant impact on reducing overall demand for the site as depicted in Figure C.18. The 496-kW PV array alone reduces site demand by around 60 kW to 100 kW during the winter months. Large demand spikes, up to 900 kW, occurred during January and March of 2023 because the WWTP processed larger volumes of wastewater during storms. The battery can be dispatched during these storm events in order to reduce sharp demand spikes. The battery yields another 80 to 175-kW demand reduction during the winter months of January, February, and March.

During the remaining 9 months of the year, the facility peak demand rarely exceeds 500 kW. Since the combined maximum output of the 496 kW PV arrays is only 410 kW, the PV alone is not a sufficient capacity to reduce peak demand in the summer. The BESS is required to secure demand savings. The PV and BESS operated in conjunction with each other offers a significant peak shaving advantage to the system and is estimated to yield 120 kW of demand reduction during the summer and fall months. The battery helps to provide five times the amount of demand cost savings annually that PV alone would have provided. Battery storage can be deployed on cloudy days when solar PV output is decreased, such that the cloud cover does not erode the demand reduction savings the system otherwise would have yielded.

Figure C.18 Demand Reduction Potential



Microgrid Emergency (Islanding) Operation

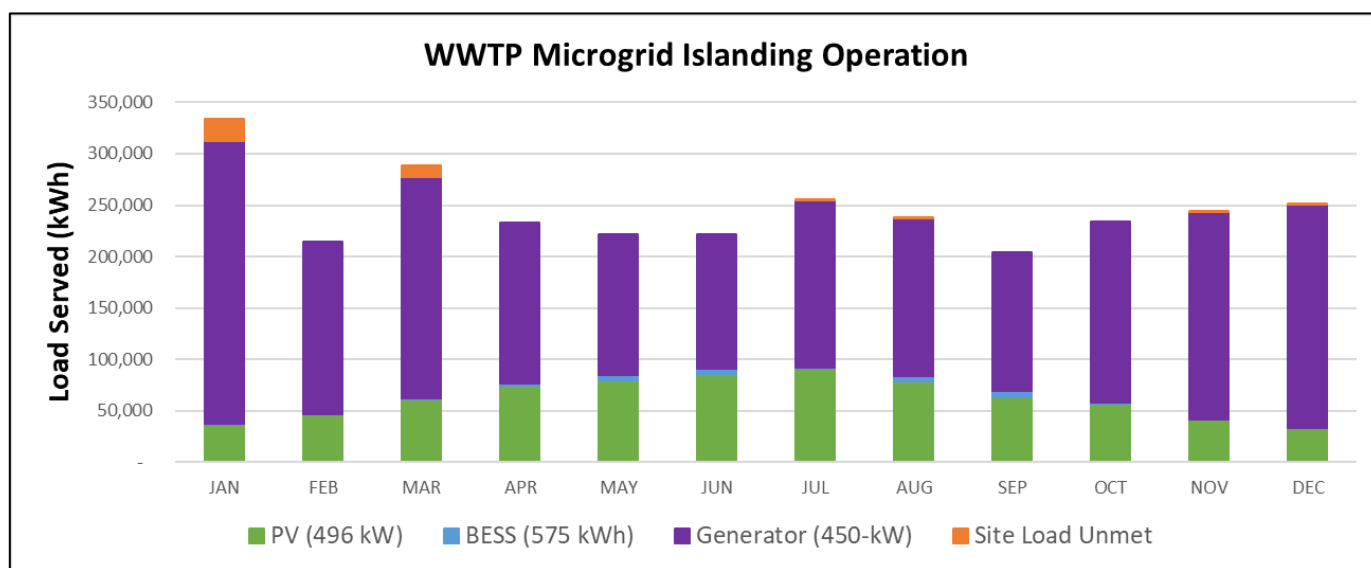
In the absence of commercial power, the microgrid controller will sense a voltage drop in the distribution system. The automatic transfer switch will engage and will isolate the WWTP electrical infrastructure from PG&E's main electrical feed. At this point, the microgrid control system will switch into "island" mode and will power on the diesel generator. The microgrid will integrate one or more of the 905-kW generators to operate in conjunction with the PV and BESS during times of islanding operation.

The generator will be required to start at the onset of islanding operation, because the generator will initially be the anchor resource, or grid-forming electrical source, in the absence of commercial power. When system voltage is re-established, the PV inverters can power back on and continue to work in conjunction with the BESS. If PV output is sufficient to carry the load at that time, the generator may then power down and let the PV and BESS continue to serve the site load. During summer and fall days, the PV and BESS are capable of serving the entire load for 4 to 6 hours per day, between 9AM and 3PM; however, this only represents 10% of the time on an annual basis. The other 90% of the time, a generator will be required to operate along with the PV and BESS in order to serve the entire WWTP load.

It is imperative to properly size the diesel generator such that it operates effectively at all expected load conditions. A diesel generator will ideally be operated at 60 to 80% of its rated capacity for maximum efficiency of the generator. A diesel generator must be operated at a minimum load factor of 30% in order to avoid wet-stacking and malfunction. The existing 905-kW diesel generator is sized to accommodate peak WWTP loads that occur during winter storm events. However, the average load that the diesel generator must serve throughout the year, when also integrated with PV and BESS, is approximately 300 kW. Over half of the hours the generator is running will be at a load factor below 30%. For this reason, Tetra Tech recommends that Pinole purchase a new, right-sized diesel generator, around 450-kW capacity. This will improve the average loading on the diesel generator to 60% load factor and improve fuel efficiency as well. Alternatively, the plant could use the 800-kW generator as the primary unit to increase the average load factor to 38%. This is a higher risk, lower cost option that reduces the time where the generator operates below 30% load but forces the generator to run at below 60% for most of the summer months when the risk of power outage is highest.

Figure C.19 illustrates the reliance on each microgrid asset during islanding, considering the time of year that the emergency occurs. The islanding analysis was done assuming a new 450-kW diesel generator is integrated with the microgrid. During January and March, there are some days where this smaller generator will not be sufficient to serve the increased loads because of stormwater; this is shown in orange as “Site Load Unmet”. On these particular days, the microgrid controller will transfer the load over to the larger 905-kW diesel generator; thus, the load will not actually be unmet. As expected, increased PV output (green) in the summer will offset more site load than the PV can offset in the wintertime.

Figure C.19 Microgrid Islanding Operation



Project Costs

Project costs are based on current market rates for commercial solar installations as well as estimates provided by Elexity for battery storage and controls. There is a licensing fee for ongoing microgrid/BMS controls. The total fee is \$50,000 for 5 years for Pinole’s license. That fee can be spread across all energy projects that are utilizing the controls and software. For the purposes of this analysis, the WWTP microgrid assumes 35% of this cost. There is an upfront hardware fee of \$35,000 for microgrid controls to enable the system to operate in island mode. That cost is reflected in the Project Cost Summary in Table C.11.

Table C.11 WWTP Microgrid Project Costs

Item	Quantity	Unit	Cost per Unit	Cost
PV Arrays	496	kW	\$2,300	\$1,140,800
BESS	575	kWh	\$663	\$381,225
Controls	1	--	\$35,000	\$35,000
Diesel Generator	1	450-kW		\$120,000
TOTAL				\$1,677,025

C.2.8 Economic Analysis

The economic analysis for the recommended microgrid system was run using the following assumptions:

1. Project life = 25 years
2. Escalation rate (for O&M and utilities) = 3%

3. Discount rate = 5%
4. ITC Rebate = 30% on microgrid project costs (PV, BESS, controls)

There is a possibility of acquiring more incentives through PG&E's SGIP to pay down the cost (or completely cover the cost) of the BESS. The SGIP program is currently in Step 5 of seven steps. The value of Non-Residential Storage is \$0.85/Wh and currently has a waitlist. The value of the incentive, if the project qualifies for "Equity Resilience," is \$1.00/Wh and this program is currently open. The microgrid project should qualify for "Equity Resilience" since a wastewater treatment plant is critical infrastructure for a community to keep operational during a power outage. The microgrid installer should submit an SGIP application for BESS incentives as soon as the final project design is complete.

Tetra Tech completed the economic analysis without the added incentive from SGIP, just in case this project does not meet the California state criteria. The economics, shown in Table C.12, are favorable even without the added BESS incentive.

Table C.12 WWTP Microgrid Project Economics

Component	Value
Cost Savings:	
PV Savings (kWh)	\$204,306
BESS-Peak Shaving (kW) Savings	\$29,605
BESS-Energy (kWh) Value	\$3,596
Exported PV (kWh) Value	\$1,726
<i>Subtotal</i>	<i>\$239,233</i>
Investment Tax Credit (30%)	\$467,108
Economic Indicators:	
Simple Payback	5.1 years
SIR	3.2
Net Present Value	\$3,000,442

C.3 Electric Vehicle Charging Stations

Description

Tetra Tech evaluated the option for the City of Pinole to install Level 2 EV chargers at the Senior Center, Youth Center, and Swim Center, and to make them available for public use to recoup costs. Engineering design plans have been created for the installation of two dual-port stations and one single-port station at the Senior Center. For the Youth and Swim Centers, an estimate was calculated using two dual port charging stations at each facility.

Most modern EVs can draw 7 to 11 kW of power from a Level 2 charging station, so 10 kW was used as a conservative estimated power draw for each charging port in use, leading to a maximum load of 50 kW for the Senior Center, and 40 kW each for the Swim and Youth Centers.

Energy and Cost Savings

An economic breakdown for the three facilities is shown in the following tables. For each site, a range of scenarios were projected as explained in Table C.13. The estimated installation cost per charging station is \$15,000, and it is assumed that newly installed stations will be separately metered using PG&E's BEV-1 rate, for which a breakdown can be seen in Table C.14. The BEV-1 rate includes a subscription charge plus a consumption charge using a time-of-use rate. The Swim Center and Youth Center have existing PV arrays; these were not included in the economic analysis but would further increase profitability of EV charging stations. Additionally, the economics were estimated using three different charges for the public, \$0.30, \$0.35, and \$0.40/kWh. Pinole already owns a Level 2 charging station near City Hall that is made available to the public for free. There are also other charging stations within Pinole that charge between \$0.35 and \$0.61/kWh, making the rates used in this analysis competitive for the area. The analysis for the Senior Center was included in the PV and BESS analysis in Section C.1.

Bidirectional chargers are an emerging technology that allows a building to use energy stored in car batteries. These chargers have a cost premium of about \$4,500 above the cost of a level 2 charger. Bidirectional chargers are not typically used in publicly available charging stations because drawing power from a privately owned car brings a host of compensation, consent, and liability problems that outweigh the potential benefits.

Table C.13: EV Usage

Use Case	Description
Light Use	50% of charging ports used during normal hours of operation
Medium Use	75% of charging ports used during normal hours of operation
Heavy Use	100% of charging ports used during normal hours of operation, with additional use by neighboring businesses/residents outside of normal operating hours

Table C.14: Time-of-Use Rates

Part of PG&E BEV-1 Tariff	Rate
Peak (4:00PM to 9:00PM)	\$0.40315/kWh
Off-Peak (9:00PM to 9:00AM, 2:00PM to 4:00PM)	\$0.21114/kWh
Super Off-Peak (9:00AM to 2:00PM)	\$0.18448/kWh
Monthly Subscription Charge	\$12.41 per 10-kW block

Table C.15: Senior Center EV Revenue

Swim Center Use Case	Customer Charge	Annual Revenue	Simple Payback
Light Use	\$0.30/kWh	\$1,855	16.2
	\$0.35/kWh	\$2,783	10.8
	\$0.40/kWh	\$4,543	6.6
Medium Use	\$0.30/kWh	\$3,567	8.4
	\$0.35/kWh	\$5,351	5.6
	\$0.40/kWh	\$8,327	3.6
Heavy Use	\$0.30/kWh	\$5,279	5.7
	\$0.35/kWh	\$7,919	3.8
	\$0.40/kWh	\$12,111	2.5

Table C.16: Senior Center EV Revenue

Youth Center Use Case	Customer Charge	Annual Revenue	Simple Payback
Light Use	\$0.30/kWh	-\$32	NA
	\$0.35/kWh	\$2,014	14.9
	\$0.40/kWh	\$6,128	4.9
Medium Use	\$0.30/kWh	\$1,382	21.7
	\$0.35/kWh	\$5,245	5.7
	\$0.40/kWh	\$12,216	2.5
Heavy Use	\$0.30/kWh	\$2,796	10.7
	\$0.35/kWh	\$8,476	3.5
	\$0.40/kWh	\$18,304	1.6

Other Benefits and Considerations

An economic breakdown of replacement of city-owned gasoline vehicles with EVs was also performed. Modern EVs can use between 25 to 30 kWh per 100 miles driven. Assuming the average vehicle use of 15,000 miles per year, this represents an energy use of 3,750 to 4,500 kWh per vehicle per year. Using a blended PG&E rate of \$0.30/kWh this represents a cost of \$1,125 to \$1,350 per year per vehicle for charging EVs.

Some of the most efficient traditional gasoline sedans can achieve 30 to 35 miles per gallon for city miles. Assuming the same driving behavior an average cost of gasoline in Pinole of \$4.30/gallon (and at the time of this report), this represents an annual fuel cost of \$1,850 to \$2,150 per year per vehicle for fueling.

Over a 10-year lifespan of a vehicle, this represents fuel savings of about \$5,000 to 10,000 per vehicle. However, it is worth noting that electricity rates are far less volatile than the price of gasoline in the State of California. Using data from the California Public Utilities Commission, the average electric rate year-over-year change is 2.68% since 2006, while the price of gasoline has swung wildly, at times rising almost 50% in a few months.

EVs also have lower scheduled maintenance costs. A 2021 Department of Energy study found that “the estimated scheduled maintenance cost for a light-duty battery-electric vehicle (BEV) totals 6.1 cents per mile, while a conventional internal combustion engine vehicle (ICEV) totals 10.1 cents per mile.” At an estimated 150,000 miles over a 10-year lifespan, this represents a savings of \$4,000 per vehicle.

Over a 10-year lifespan, these savings amount to \$11,000 to \$16,250 per vehicle. This number will increase further if gasoline prices increase continue to outpace electric rate increases, or if Pinole elects to install more PV and battery storage systems to self-fuel EV fleet vehicles without paying PG&E rates. Table C.17 shows the yearly cost comparison between gas vehicles and EVs.

Table C.17: Municipal EV Cost

Vehicle Type	Fuel Cost per Vehicle per Year	Maintenance Costs per Vehicle per Year
Fully Electric	\$1,125 - \$1,350	\$915
Internal Combustion	\$1,850 - \$2,150	\$1,515

Funding Sources

There are several federal and state programs to help cities make the transition to electric vehicles:

Report Section	Program
D.4	Federal Alternative Fuel Infrastructure Tax Credit
D.5	California Energy Conservation Assistance Act (ECAA) Low interest Loan
D.6	Federal Climate Pollution Reduction Grants (CPRG)

C.4 Energy Dashboard and Demand Management

Description

Tetra Tech evaluated the option for Pinole to create a centralized energy dashboard that would improve visibility of building operation to Public Works staff. There are many options for energy monitoring systems with varying levels of functionality. Tetra Tech aimed to identify a single option that met all project goals in order to simplify the acquisition and integration of monitoring system and get the most long-term value for Pinole. Thus, any energy dashboard would need to accomplish the following tasks:

- View real-time building electric meter and natural gas meter data.
- View HVAC operation and modify system setpoints.
- View production of renewable energy systems.
- View and manage energy storage assets.

There are a handful of vendors that offer services that meet these goals including Johnson Controls, Elexity, and Siemens. When Tetra Tech reached out to these companies, Elexity provided the most specific details about budget and controls strategies, so their system was used as the basis for analysis.

This energy management system would install electric meters and integrate with BACnet compatible controls systems and thermostats within Pinole buildings. Tetra Tech recommends installing electric meters on the renewable energy systems at the Swim Center, Youth Center, and WWTP and installing natural gas meters on all buildings with a significant natural gas load. The Elexity system also allows for strategic control of BESS to reduce demand charges while reserving energy for emergency power. The battery control aspects are described in Section C.1 of this report.

Where facilities have exiting controls systems, the new meters should report directly to the exiting controls to export data to the dashboard. In the case of the WWTP, the exiting controls system uses a Supervisory Control and Data Acquisition (SCADA) based controls system. New meters should be compatible with that system and export data to the BACnet based dashboard.

Energy and Cost Savings

The Elexity system enables the buildings with integrated controls to adjust the operation of their HVAC systems to respond to energy prices. Pinole can identify spaces where the temperature setpoint can be reset when energy prices are high and building demand is spiking, thus reducing the demand charges seen on the utility bills. The savings and financial analysis for this measure are broken down by building in Table C.18. Pinole has many options for setback strategies that can make a big impact:

- At City Hall, the energy use spikes at around 4PM at the beginning of the peak demand period where energy prices are highest. Increasing the setpoint in low-use meeting rooms would cut the cooling demand by about 15%.
- At the Senior Center, the energy use spikes at around 11:30AM. At that time, most of the patrons are in the main hall for lunch and the thermostat in the meeting rooms and lobby can increase their setpoints reducing the cooling demand by about 7%.
- At the Youth Center, the energy use spikes around 4:30PM when the solar production wanes and energy prices are highest. The temperature setpoint throughout the building can be increased reducing the cooling load by about 30%.

Table C.18: Energy Dashboard Financial Analysis

Building	Project Cost	Cost Savings (\$/yr)	Demand Savings (kW)	Energy Savings (kWh/yr)	SIR	Payback (years)
City Hall	\$9,500	\$751	6.2	3,744	12.8	1.44
Public Safety	\$2,000					
Senior Center	\$9,500	\$685	4.9	2,943	10.0	1.23
WWTP	\$3,000					
Swim Center	\$3,000					
Youth Center	\$9,500	\$1,014	7.2	4,356	14.9	1.83
Firehouse	\$2,000					
Post Office	\$2,000					
Tiny Tots	\$2,000					
Total	\$42,500	\$2,450	18.3	11,042	37.7	1.05

Other Benefits and Considerations

Demand management services come with a subscription fee. For Elexity, this fee is \$120 per month per building. This fee has been incorporated into the financial analysis. For any system, Pinole should ensure that the energy monitoring aspects of the dashboard are accessible even if the demand management services are canceled.

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.3	MCE Peak FLEXmarket
D.5	ECAA Low-Interest Loan

C.5 Rooftop Air Handler Replacement and Demand Control Ventilation

Description

The existing RTUs at the City Hall Chambers and Senior Center Main Hall run at full speed on a continuous schedule. Tetra Tech evaluated the effect of replacing these units with high efficacy, VAV RTUs. This type of RTU uses a variable frequency drive (VFD) to adjust the fan speed and air flow. The air flow level is controlled by carbon dioxide (CO₂) sensors in the space served by the RTU so that the air flow increases when the room is in heavy use and decreases the flow when the rooms is lightly occupied or unoccupied. The cooling efficiency of an RTU is defined by its Seasonal Energy Efficiency Rating (SEER); new units have SEERs of over 15.2 compared to the existing units which have SEERs of 8.5 to 9.1. This 75% increase in SEER means that the units will use 43% less energy to provide the same cooling.

The fresh air provided by the existing units is designed to meet the needs of a fully occupied room. These rates are set by the American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE) in Standard 62.1. The flow rate is heavily dependent on the number of people in the ventilated space. As occupancy decreases the required flow rate decreases. Ramping down the flow rate saves fan energy and reduces the cooling and heating energy needed to condition the incoming outside air. This effect is especially pronounced when it is very hot or very cold outside. The fan speed should be controlled to maintain a CO₂ level of 1,100 parts per million (ppm) to meet ASHRAE standards and ensure the comfort of occupants.

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by calculating the fan, heating, and cooling load for the three RTUs at each outside air condition from 32°F to 94°F for both occupied and unoccupied conditions. For the City Council Chambers, Tetra Tech assumed minimal occupancy outside the City Council meetings posted on the council calendar. For the Senior Center Main Hall, Tetra Tech assumed minimal occupancy outside normal operating hours of the center. The savings and financial analysis for this measure are broken down by building in Table C.19.

The estimated costs consider the costs of new units, VFDs, installation labor, cranes for installation, and demolition. There may be additional costs for replacing duct work that are not included in this analysis.

Table C.19: DCV Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	Natural Gas Savings (therms)	SIR	Payback (years)
City Hall	\$74,500	\$10,243	23,521	3,590	2.08	7.2
Senior Center	\$89,500	\$9,486	46,697	1,635	1.60	9.4
Total	\$164,000	\$19,728	70,218	5,226	1.80	8.3

Tetra Tech also evaluated the savings for this measure if the new units use heat pump heating elements. These units have higher price than a traditional gas pack unit but have lower heating costs than natural gas and current gas prices. These units have the added benefit of reducing on site carbon emissions. The savings and financial analysis for this measure are broken down by building in Table C.19b.

Table C.19b: DCV Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	Natural Gas Savings (therms)	SIR	Payback (years)
City Hall	\$83,800	\$11,406	11,210	5,129	2.05	7.3
Senior Center	\$103,500	\$9,889	42,155	2,189	1.44	10.4
Total	\$187,300	\$21,295	53,364	7,318	1.71	8.3

Other Benefits and Considerations

The CO₂ sensors used to set the ventilation rate will need to be calibrated annually. This will add a small maintenance task to the regular servicing of the RTUs.

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.2	MCE's Commercial Efficiency Market programs
D.5	ECAA Low-Interest Loan

C.6 Duct Air Temperature and Hot Water Supply Temperature Reset

Description

The main air handler at City Hall provides 52 °F air whenever the chiller is operating. This low duct air temperature (DAT) is necessary on the hottest days of the year, but during period of moderate temperatures (52°F to 80°F) a low DAT is not needed to meet the building's cooling load. The low DAT also creates needless load on the boiler to reheat air when heating is called for. New controls would increase this cooling temperature when the outside air temperature (OAT) is between 52°F to 78°F. A schedule of the recommended setpoints is provided in the following table:

Table C.20: DAT Reset Setpoints

OAT (°F)	DAT (°F)
≥ 80	52
75	54
70	56
65	58
≤ 60	60

Undesirable simultaneous heating and cooling will be further reduced by decreasing the hot water supply temperature (HWST) during periods of moderate load. If the DAT is higher than the current setpoint, a reduced HWST will allow the VAV boxes to better tune the air temperature supplied to the occupied building zones. A reduced HWST will also reduce heat losses and improve boiler efficiency at low to moderate loads. A schedule of the recommended setpoints is provided in the following table:

Table C.21: HWST Reset Setpoints

OAT (°F)	HWST (°F)
≥ 66	160
62	165
58	170
54	175
≤ 50	180

Energy and Cost Savings

This measure produces significant savings during periods of moderate outside air temperatures. For example, rather than cooling air from 62°F to 52°F and then heating it to meet each space's heating demands with 180°F water, the system can meet all cooling loads by cooling the air to 60°F. As a result, less reheating energy is needed to meet heating demand and the VAV boxes would only require 165°F water from the boiler. In this example, the cooling load would decrease by 80% and the heating load would decrease by 50%. Tetra Tech calculated the total savings by evaluating the change in cooling and heating loads resulting from changes to the DAT and HWST for the OAT at every hour of a typical year. The savings and financial analysis for this measure are broken down in Table C.22.

Table C.22: DAT&HWST Reset Financial Analysis

Building	Project Cost	Cost Savings (\$)	Electric Savings (kWh)	Natural Gas Savings (therms)	SIR	Payback (years)
City Hall	\$40,800	\$9,595	19,327	3,725	1.18	4.3

Other Benefits and Considerations

This controls change would need to be accompanied by a rehab of the HVAC equipment and controls. A controls contractor would need to restore access to the BMS; test sensors, actuators, valves, and dampers; replace broken components; adjust building schedules to match current conditions; balance the air and water flows to match design conditions; and clean air ducts. Tetra Tech's cost estimate includes this work.

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.2	MCE's Commercial Efficiency Market programs
D.5	ECAA Low-Interest Loan

C.7 Zone Temperature Setback

Description

Interval data for City of Pinole facilities show that the HVAC systems do not fully ramp down during unoccupied periods. Most thermostats cannot be programmed with temperature schedules and the thermostats that can be programmed do not have schedules that match the occupancy schedules in the zones they serve. This measure involves replacing the existing thermostats in multiple buildings with programmable thermostats and setting back the space temperature during unoccupied times such as nights and weekends. Tetra Tech evaluated thermostats available on the market and determined that new units should have the following features:

- Wi-Fi connectivity with a BACnet communication protocol to interface with the proposed energy dashboard.
- Ability to set individual schedules for all seven days of the week.
- Ability to accept limited, temporary local overrides of the setpoint to accommodate atypical work schedules and special events.

Thermostats that meet these criteria are available from many manufacturers including Honeywell, Lennox, and Carrier. The recommended setpoints during unoccupied periods is provided in the following table:

Table C.23: Temperature Setback Setpoints

Status	Temperature Setpoint
Cooling	78 °F
Heating	58 °F

Energy and Cost Savings

This measure produces savings by reducing the heat gain of the building during hot summer evenings and reducing the heat loss during cold nights. Tetra Tech calculated the savings assuming a 12% reduction in heating and cooling loads when the thermostats are in unoccupied mode during hot and cold periods. The savings and financial analysis for this measure are broken down by building in Table C.24.

Table C.24: Temperature Setback Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	Natural Gas Savings (therms)	SIR	Payback (years)
City Hall	\$15,900	\$4,256	13,613	1,278	2.68	3.7
Public Safety	\$11,300	\$1,481	2,561	604	1.31	7.6
Senior Center	\$3,700	\$1,262	3,470	421	1.71	2.9
Youth Center	\$7,100	\$814	5,902	-	1.15	8.7
Total	\$38,000	\$7,813	25,545	2,303	2.01	4.86

Other Benefits and Considerations

Testing and balancing should accompany the installation of new thermostats whether they are connected to new equipment or existing air handlers, heat pumps, or VAV boxes. This testing should confirm that the system air flow rate, water coil flow rate, and discharge air temperature meet the requirements set in the system design or unit specifications. Tetra Tech's cost estimate includes this work.

Funding Sources

There is a state program to help cities make implement this type of measure:

Report Section	Program
D.5	ECAA Low-Interest Loan

C.8 Interior LED Retrofit

Description

City facilities throughout Pinole use linear fluorescent fixtures and CFL fixtures for interior lighting. This type of lighting has been standard for office and municipal buildings since the early 1990s, but over the last decade improvements in LED technology have made it clear that it is time to shift interior lighting to LED. Modern LEDs are more reliable than the existing fluorescent fixtures and can illuminate the space with 40 to 50% less energy. New fixtures should have an efficiency of over 100 lumens per watt, a color rendering index of 840, and a consistent color temperature of either 4,000 Kelvin or 5,000 Kelvin. This will ensure all spaces are well lit and welcoming.

Another major advantage of LED lighting is its long lifespan. A typical LED currently on the market has a rated lifespan of 50,000 hours and a 5-year warranty compared to a T8 lamp, which has a rated lifespan of 30,000 hours and a 2-year warranty. Some buildings opt to replace fluorescent with LEDs as the old fixtures burn out, but this can negate the maintenance savings from LEDs as maintenance personnel will still need to check and replace fluorescent bulbs and ballasts throughout the Pinole facilities. Tetra Tech recommends completing the retrofit in one large project to ensure consistency in products and clear timelines for replacement.

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by determining the number of fixtures that need to be replaced and the hours per year that those fixtures operate. Once the baseline of power and operating hours was established, Tetra Tech applied a reduction in wattage to reflect the higher efficiencies of the new fixtures. The savings and financial analysis for this measure are broken down by building in Table C.25.

The estimated costs consider the costs of new fixtures, installation labor, and demolition. There may be additional cost for replacing wiring and conduit that is not included in the analysis.

Table C.25: LED Retrofit Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	Demand Savings (kW)	SIR	Payback (years)
City Hall	\$39,800	\$4,416	31,165	5.8	1.11	9.0
Public Safety	\$44,400	\$6,995	50,199	3.4	1.58	6.3
Post Office	\$19,700	\$2,903	20,700	2.4	1.47	6.8
Tiny Tots	\$3,400	\$428	2,627	N/A	1.26	7.9
Total	\$107,300	\$14,743	104,691	11.6	1.37	7.28

Tetra Tech also evaluated this measure for the Senior Center. The savings for the measure were significantly less than for the other buildings because of the limited operating hours of the existing lights. Table C.26b shows the financial analysis for this measure.

Table C.26b: Senior Center Occupancy Sensor Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Senior Center	\$14,300	\$1,196	8,665	0.84	12.0

Funding Sources

There is a state program to help cities make implement this type of measure:

Report Section	Program
D.5	ECAA Low-Interest Loan

C.9 Interior Lighting Occupancy Controls

Description

City facilities throughout Pinole control the operation interior lighting with manual switches. This type of control is often used for its simplicity but relies on occupants to shut off lights when they leave a room. As a result, many rooms are illuminated throughout the day even when the room is empty, and some areas are illuminated at night when the facility is unoccupied or lightly occupied. Installing occupancy sensors that use passive infrared and ultrasonic technologies to sense movement and have a clear view of the room they serve will ensure that light is always available for occupants while reducing the operating hours of the lights significantly.

The best results for this measure can be achieved by purchasing LED fixtures with integrated occupancy sensors. This will ensure that movement can be detected anywhere in the illuminated space and maximally reduce the run times of the controlled lights. This approach would tie in well with the LED replacement measure described in Section C.8 but was evaluated separately to allow Pinole to choose either option.

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by determining the number of fixtures that need to be replaced and the hours per year that those fixtures operate. Once the baseline of power and operating hours was established, we applied a standard reduction in operating hours based on the space use type. Typical savings based on space use type are published by the Lighting Controls Association (LCA). The savings and financial analysis for this measure are broken down by building in Table C.26.

The estimated costs consider the costs of new fixtures, installation labor, and demolition. There may be additional cost for replacing wiring and conduit that is not included in the analysis.

Table C.26: Occupancy Sensor Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
City Hall	\$8,400	\$1,146	8,306	1.36	7.3
Public Safety	\$9,700	\$1,049	7,598	1.08	9.3
Post Office	\$1,100	\$725	5,256	6.59	1.5
Total	\$19,200	\$2,920	21,161	1.52	6.58

Tetra Tech also evaluated this measure for the Senior Center. The savings for the measure were significantly less than for the other buildings because of the limited operating hours of the existing lights. Table C.26b shows the financial analysis for this measure.

Table C.26b: Senior Center Occupancy Sensor Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Senior Center	\$4,300	\$142	1,032	0.17	28.4

Funding Sources

There is a state program to help cities make implement this type of measure:

Report Section	Program
D.5	ECAA Low-Interest Loan

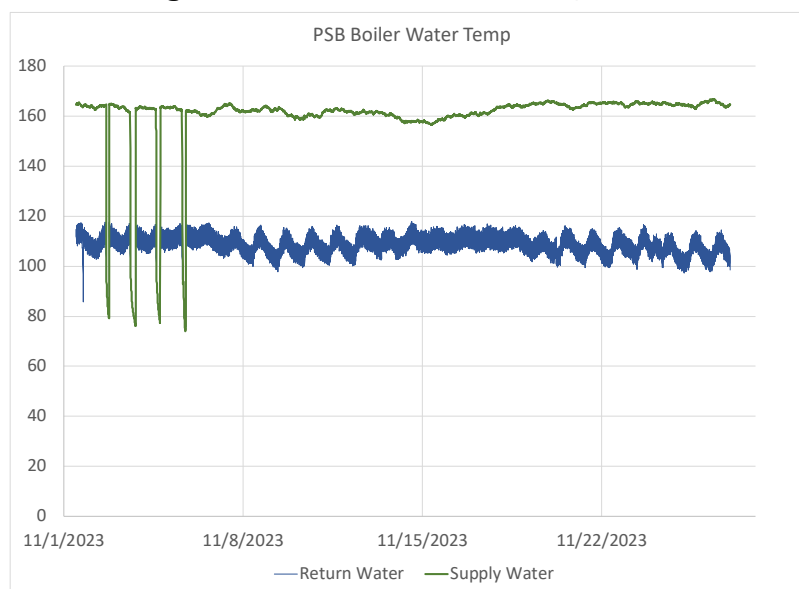
C.10 Boiler Replacement

Description

The Boiler at the PSB was manufactured in 1984 and is currently controlled by pneumatic system to maintain a HWST of 165°F whenever the air handlers need to provide heating. This controls strategy forces the boiler to run for much of the year at a very low load where the boiler efficiency is at its worst. The boiler has a rated efficiency of 80%, but with the degradation of time and the low-load operation it is operating at an efficiency of between 74 to 78%.

Modern condensing boilers provide much finer control and higher efficiencies. Condensing boilers are able to extract more heat from flue gas leaving the combustion chamber to preheat incoming water. This effect is especially potent when the return water temperature is low, as is often the case with the boiler in the PSB. Figure C.20 shows the return water temperature over the course of November 2023. At these temperatures a condensing boiler operates at a thermal efficiency of 93 to 95%.

Figure C.20: PSB Boiler Water Temperatures



Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by modeling the gas consumption of the boiler using trend data and natural gas meter data. Once the baseline was established, Tetra Tech calculated how much natural gas would be needed by a high efficiency boiler to meet the same heating load. The savings and financial analysis for this measure are broken down in Table C.27.

The estimated costs consider the costs of a new unit, installation labor, installation equipment, system balancing, and demolition. There may be additional costs for replacing piping and pumps that are not included in this analysis.

Table C.27: Boiler Replacement Financial Analysis

Building	Project Cost	Cost Savings	Natural Gas Savings (terms)	SIR	Payback (years)
Public Safety	\$71,800	\$5,157	2,773	1.44	13.9

Funding Sources

There is a state program to help cities make implement this type of measure:

Report Section	Program
D.5	ECAA Low-Interest Loan

C.11 Fire Station Garage Demand Control Ventilation and AHU Rehab

Description

The air handler that serves the Fire Station Garage at the PSB was manufactured 1976 and runs at full speed on a continuous schedule. The air handler is controlled by the pneumatic system to provide 75°F whenever the garage thermostat calls for heating. On cold nights, the air handler is blowing in cold outside air and heating it to warm the space while the garage is unoccupied and the vehicles are off.

Similar to the DCV measure described in Section C.5, the fan energy and heating energy can be greatly reduced by installing a VFD to modulate the speed of the air handler's supply fan. For a garage however, there are more control variables than for an assembly hall. The air handler and exhaust fan must remove engine exhaust in addition to CO₂ from occupants. Therefore, the fan speed will be tied to sensors that detect CO₂, carbon monoxide (CO), and nitric oxide (NO) levels. This type of controls system is widely used in parking garages, and there are a wide range of vendors that can set up a safe and efficient ventilation system for the garage.

To enable this type of control, the air handler will need to be upgraded with a new fan motor and digital controls system. The cost estimate for the project includes a full rehab of the air handler and exhaust system, including replacement of dampers, duct cleaning, testing, and balancing,

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by calculating the fan, heating, and cooling load for the AHU at each outside air condition from 32°F to 94°F for both occupied and unoccupied conditions. Tetra Tech then performed the same calculation for the case when the fan speed reduces to 30% of full load during unoccupied periods. The savings and financial analysis for this measure are broken down in Table C.28.

The estimated costs consider the costs of a new motor, VFDs, installation labor, cleaning, balancing, and demolition. There may be additional costs for replacing duct work that are not included in this analysis.

Table C.28: Garage DCV Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	Natural Gas Savings (therms)	SIR	Payback (years)
Public Safety	\$40,400	\$7,638	17,721	2,791	2.84	5.3

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.2	MCE's Commercial Efficiency Market programs
D.5	ECAA Low-Interest Loan

C.12 Exterior Lighting Photocell Controls

Description

During daytime inspections, Tetra Tech observed exterior lights at the Post Office and in the downtown parking lots that were on. These fixtures should be controlled by a photocell light sensor to turn off during the day. These photocells need to be cleaned every 2 to 3 years to prevent buildup of dirt that obstructs the sensor and tells the lights that it's dark out. Photocells typically need to be replaced every 10 years.

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by determining the number and wattage of fixtures that are on during the day. Tetra Tech assumed these fixtures run on a continuous schedule, and that once the photocells are installed or replaced the fixtures will run 12 hour per day. The savings and financial analysis for this measure are broken down by building in Table C.29.

The estimated costs consider the costs of new photocells and installation labor.

Table C.29: Photocell Controls Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Post Office	\$300	\$109	788	1.81	2.8
Parking Lots	\$900	\$252	2,062	1.40	3.6
Total	\$1,200	\$360	2,851	1.50	3.3

C.13 Boiler Insulation

Description

The boilers used to supplement the CHP system at the anaerobic digester at the WWTP lose significant heat to the surrounding area. The boiler shells and hot water piping in the boiler room are uninsulated and the room was 82°F with doors open to the outside during the site visit as shown in Figure C.21. Installing insulation jackets on the boilers and insulation blankets on the piping will greatly reduce the heat loss from the system.

Figure C.21 Uninsulated boilers and pipes



Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by determining the heating load of the boilers from the natural gas bill for the site. Tetra Tech assumed a baseline R-value of 0.68 and an insulation R-value of 3.4, corresponding to an 80% decrease in heat loss. The savings and financial analysis for this measure are broken down in Table C.30.

Table C.30: Boiler Insulation Financial Analysis

Building	Project Cost	Cost Savings	Natural Gas Savings (terms)	SIR	Payback (years)
WWTP	\$6,200	\$1,582	925	2.55	3.9

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.2	MCE's Commercial Efficiency Market programs
D.5	ECAA Low-Interest Loan

C.14 Pool Pump VFD Controls

Description

The Swim Center uses two pumps that run at full speed at all hours to circulate pool water through the filters and heaters. The pumps are sized for the necessary flow rate when the pool is in full use. The flow rate is set by California's Title 24 section 3124B. However, when the pool is not being used, that code allows the flow rate to be decreased to 75% of the occupied flow rate. This measure would replace the pump motor for the main pool and the pump and motor for the kids pool with high efficiency units and install VFDs on the new motors to reduce the pump speed and power when the pools are not in use. Table C.32 shows the required flow rates for both pools during occupied and unoccupied periods. The VFDs would follow a set occupancy schedule.

Table C.31: Pool Pump Flow Rates

State	Main Pool	Kids Pool
Occupied	509 gpm	195 gpm
Unoccupied	382 gpm	146 gpm

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by taking measurements of the pressure lift of the pumps and determining the flow rate from the manufacturer's pump curves. Tetra Tech calculated the power draw for the motors from the flow rate, pressure lift, pump efficiency, and motor efficiency. Tetra Tech then evaluated the decrease in flow, pressure, and power from decreasing the motor speed to 75%. Operating hours were determined by schedules posted on the Swim Center's website. The savings and financial analysis for this measure are broken down in Table C.32.

The estimated costs consider the costs of new motors, VFDs, installation labor, cleaning, balancing, and demolition. There may be additional costs for replacing piping that are not included in this analysis.

Table C.32: Pool Pump VFD Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Swim Center	\$68,700	\$9,562	69,793	1.39	7.2

Funding Sources

There are state and utility programs to help cities make implement this type of measure:

Report Section	Program
D.2	MCE's Commercial Efficiency Market programs
D.5	ECAA Low-Interest Loan

C.15 Pool Cover

Description

The pools are heated to 80°F in the summer and 60°F in the winter. The water is open to the atmosphere year around (as shown below in Figure C.22) and the largest loads on the pool heaters are the evaporative losses from the pool surface overnight. Installing a motorized roll-up pool cover on the pools would eliminate those evaporative losses with minimal additional tasks for pool staff.

Figure C.22 Uncovered Main Pool



Energy and Cost Savings

The Department of Energy has published case studies showing the effect of pool covers on pool water heating loads. They show that covers reduce the heat loss for 80°F water by 70% and 60°F water by 50%. Operating hours at each temperature were determined by schedules posted on the Swim Center's website. The savings and financial analysis for this measure are broken down in Table C.33.

The estimated costs consider the costs of a pool cover and installation labor.

Table C.33: Pool Cover Financial Analysis

Building	Project Cost	Cost Savings	Natural Gas Savings (terms)	SIR	Payback (years)
Swim Center	\$28,500	\$4,921	3,466	1.73	5.8

Funding Sources

There is a state program to help cities make implement this type of measure:

Report Section	Program
D.5	ECAA Low-Interest Loan

C.16 Swim Center PV Repair

Description

The Swim Center has a 49-kW canopy PV array that was installed in 2013. Pinole never gained access to the monitoring system for the array and has been unable to track its performance. Utility meter data show that the system is performing at about 80% of its rated capacity. This corresponds with 40 panel-inverter pairs not producing any power. Pinole, solar contractor, and solar equipment manufacturers should coordinate to identify malfunctioning equipment and replace broke components. The panels and inverters are under a 25-year warranty. The warranty information for the equipment can be found in the links below:

[LIMITED WARRANTY STATEMENT PHOTOVOLTAIC HiDM MODULE PRODUCTS \(canadiansolar.com\)](#)

[January-2011-M215-warranty.pdf \(enphase.com\)](#)

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure estimating the production of the system operating at 90% of its expected capacity and calculated the savings as the difference between current operation and the 90% case. The savings and financial analysis for this measure are broken down in Table C.34.

Table C.34: Swim Center PV Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Swim Center	\$8,400	\$2,464	15,114	2.93	3.4

C.17 Ballpark Lighting

Description

Pinole is evaluating a project to replace the lights that illuminate the ballpark at Fernandez Park with LEDs. The current fixtures are 1,500-watt HPS lamps. Spares of the lamps are in the caretaker's shed in the park. To get the equivalent light from an LED, a 750-watt fixture with an efficiency of 140 lumens per watt would be needed. This project will not produce enough energy savings to justify the cost because of the limited runtime of the fixtures and high cost of replacing fixtures mounted on high ballpark lighting poles. However, the project is being evaluated to improve the usability of the field and reduce the work required from public works staff; the energy savings could be an additional driver for the project.

Energy and Cost Savings

Tetra Tech evaluated the savings for this measure by determining the power draw of the 14 fixtures from the equipment specifications and determining the runtime of those fixtures from the utility meter data. From the meter data, it appears that the fixtures run for about 330 hours per year. Once the baseline of power and operating hours was established, Tetra Tech applied a reduction in wattage to reflect the higher efficiencies of the new fixtures. The savings and financial analysis for this measure are broken down in Table C.35.

The estimated costs consider the costs of new fixtures, installation labor, and demolition. There may be additional costs for replacing wiring and conduit and cost associated with structural repairs that are not included in the analysis.

Table C.35: Ballpark Lighting Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Fernandez Park	\$29,800	\$507	4,158	0.17	58.7

C.18 Streetlighting Utility Bill Update

Description

The PG&E bills for streetlighting show that 56% of city-owned fixtures are LEDs. The remaining 44% of fixtures on the bills are 70-watt to 400-watt HPS and MH fixtures. Inspection of the streetlights show the large majority are LEDs with much lower power draws than the fixtures listed on the bill. Table C.37 shows the fixture counts listed on the bills:

Table C.36: Billing Fixture List

Fixture Type	Qty
70-watt HPS	139
70-watt MH	24
100-watt HPS	6
175-watt MH	4
200-watt HPS	14
250-watt HPS	11
400-watt MH	34
30-watt LED	40
35-watt LED	83
60-watt LED	21
75-watt LED	14
105-watt LED	69
130-watt LED	46
140-watt LED	19
Total	524

Pinole is being charged 50 to 80% more for the HPS and MH fixtures than they would for an LED with an equivalent light output. To update PG&E's records and correct the billing amount, Pinole will need to provide invoices for the installed LED streetlights to this website:

<https://pgeservice.my.site.com/ExternalWebform/s/>

Assistance can be provided by the PG&E account representative for the City of Pinole. Contact information is listed below:

Anthony Corales, Local Customer Relationship Manager, Sr.
Mission & East Bay
Pacific Gas & Electric
Cell: 559.240.0250 | Email: Anthony.Corales@pge.com

Energy and Cost Savings

Tetra Tech evaluated the cost savings for this measure by comparing the monthly charge per fixture listed on the bills to the charge listed for the 73-watt LEDs and 29-watt LEDs found in the field. The savings and financial analysis for this measure are broken down in Table C.37.

Table C.37: Streetlighting Bill Update Financial Analysis

Building	Project Cost	Cost Savings	Electric Savings (kWh)	SIR	Payback (years)
Parking Lots	\$0	\$31,950	-	N/A	N/A

D. Funding Sources

D.1 Self-Generation Incentive Program (SGIP)

Description

The SGIP is a California Public Utilities Commission (CPUC) program that offers rebates for installing energy storage technology at your facility. These storage technologies include battery storage systems that can function in the event of a power outage. Currently, the rebate is 15 to 20% of the average battery cost and is open to all PG&E customers.

SGIP may cover the full cost of the battery up to \$1,000 kWh of battery storage if you:

- Live in Tier 2 or Tier 3 High Fire-Threat Districts (HFTD), or
- Have experienced more than two Public Safety Power Shutoffs (PSPS)
- And meet one of the following:
 - Use life-support equipment.
 - Meet income eligibility standards.
 - Rely on an electric well pump for water.
 - Have incentives reserved in the income-qualified solar programs (SASH or DAC-SASH)

Eligible Measures

The following recommended measures would be eligible for this program:

C.1 Senior Center Microgrid

0 Wastewater Treatment Plant Microgrid

Application Process

Pinole can apply for an SGIP incentive through an eligible installer. The list of eligible installers can be found here:

[sgip-installers-2020.pdf \(ca.gov\)](#)

To get more information on the program and eligibility requirements Pinole can work with its account representative or the SGIP team here:

Email: selfgen@pge.com

Customer Service Center: 415-973-6436

Pinole can also set up an account with the SGIP here:

<https://www.selfgenca.com/register/>

D.2 MCE's Commercial Efficiency Market program

Description

MCE Community Choice Energy is a not-for-profit energy aggregator that serves communities in Contra Costa, Marin, Solano, and Napa counties, including Pinole. They operate energy programs funded by rate payers in the region. Their Commercial Efficiency Market program offers incentives for implementing long-term energy efficiency measures. Incentives are tied to the calculated kWh for a project. These incentives are tied to projects when buildings are going above and beyond the energy codes, so some of the maintenance related measures will not be eligible. Incentives are available for the following measures:

- Building Envelope
- Chillers
- HVAC
- Lighting
- Process
- Water Heating

Eligible Measures

The following recommended measures would be eligible for this program:

- C.5 Demand Control Ventilation
- C.6 Duct Air Temp and Hot Water Reset
- C.11 Fire Station Garage AHU Rehab and DCV
- C.14 Pool Pump VFD Controls

Application Process

To apply and get more information on the program and eligibility requirements, Pinole can register here:

[Commercial - FLEXMARKET \(demandflexmarket.com\)](https://demandflexmarket.com)

Projects must be registered with MCE to check eligibility and calculate eligible savings. Once a project is approved, MCE provides 20% of the incentive money upfront to aid in the execution of the project.

D.3 MCE's Peak FLEXMarket Program

Description

MCE also provides incentives for projects that can reduce a building's power demand on days when the grid is strained. This corresponds to the hottest days of the year and frees up grid capacity to provide the cooling needed to California utility customers.

Eligible Measures

The following recommended measures would be eligible for this program:

C.4 Energy Dashboard and Demand Management

Application Process

To apply and get more information on the program and eligibility requirements, Pinole can register here:

[Commercial - FLEXMARKET \(demandflexmarket.com\)](https://demandflexmarket.com)

Projects must be registered with MCE to check eligibility and calculate eligible savings. The incentive is paid out when demand curtailment occurs. No money is paid upfront, but demand response incentives can be paid for years to come.

D.4 Inflation Reduction Act (IRA) Direct Pay Tax Credits

Description

The Inflation Reduction Act extends many of the law's tax incentives to entities that generally do not benefit from income tax credits, such as state, local, and Tribal governments and other tax-exempt entities. Specifically, these entities can elect to receive some of the Inflation Reduction Act's tax credits in the form of direct payments. The act also makes certain tax credits transferable. In these cases, taxpayers that are generally ineligible for direct payment of credits may transfer all or a portion of certain credits to an unrelated party in exchange for cash.

Details on each tax credit can be found on the IRS website here: [Publication 5817-G \(6-2023\) \(irs.gov\)](https://www.irs.gov/publications/p5817).

The following tax incentives are now eligible for direct pay:

- Clean Electricity Production Tax Credit
- Clean Electricity Investment Tax Credit
- Low-Income Communities Bonus Credit
- Credit for Qualified Commercial Clean Vehicles

Eligible Measures

The following recommended measures would be eligible for this program:

- C.1 Senior Center Microgrid
- 0 Wastewater Treatment Plant Microgrid
- C.3 Electric Vehicle Charging Stations

Application Process

To take advantage of this incentive, Pinole will need to register a project with the IRS. This can be done by an authorized representative of the City of Pinole on the IRS's online portal here:

[Register for elective payment or transfer of credits | Internal Revenue Service \(irs.gov\)](https://www.irs.gov/efile)

Once a project is registered and completed, Pinole will include the credit on its tax filling in the following year. Pinole can receive the full value of the credit because the IRS treats the elective payment amount as a tax payment. The IRS then counts it as overpayment on the return and refunds it to the entity.

D.5 Energy Conservation Assistance Act (ECAA) Low-Interest Loan Program

Description

The ECAA program provides 1% interest loans for eligible energy projects up to \$3 million. Projects with proven energy or demand cost savings or both are eligible. Examples of projects include:

- Lighting system upgrades.
- Pumps and motors.
- Streetlights and LED traffic signals.
- Energy management systems and equipment controls.
- Building insulation.
- Energy generation including renewable and combined-heat-and-power projects.
- Heating, ventilation, and air-conditioning equipment.
- Water and wastewater treatment equipment.
- Load-shifting projects, such as thermal energy storage.
- Energy storage systems.
- Electric vehicle charging infrastructure used to power public fleets.

Eligible Measures

All of the capital projects identified in this study are eligible for this program.

Application Process

To apply for a loan, Pinole must submit:

- A completed and signed Loan Application.
- A completed Summary of Measures in Loan Request.
- A Governing Body Resolution.
- California Environmental Quality Act (CEQA) Compliance Documentation.
- Documentation of Applicant's Authority.
- Utility Billing Data. The applicant must electronically submit 12 months of recent baseline utility data records from electric and natural gas utilities unless the information on utility usage and rate schedules is included in the feasibility study or energy audit report.
- Feasibility Study or energy audit report.

All forms are located on the California Energy Commission's website here:

[PON-22-002 - Energy Conservation Assistance Act \(ECAA\) Low-Interest Loan Program](#)

D.6 Climate Pollution Reduction Grant (CPRG)

Description

The CPRG program provides \$5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. Authorized under Section 60114 of the Inflation Reduction Act, this two-phase program provides \$250 million for noncompetitive planning grants, and approximately \$4.6 billion for competitive implementation grants.

The program is designed to enable states, municipalities, tribes, and territories to achieve the following goals:

- Implement ambitious measures that will achieve significant cumulative GHG reductions by 2030 and beyond.
- Pursue measures that will achieve substantial community benefits (such as reduction of criteria air pollutants (CAPs) and hazardous air pollutants (HAPs), particularly in lowincome and disadvantaged communities.
- Complement other funding sources to maximize these GHG reductions and community benefits.
- Pursue innovative policies and programs that are replicable and can be “scaled up” across multiple jurisdictions.

Program details are described on the Environmental Protection Agencies website here:

[cprg-general-competition-correction.pdf \(epa.gov\)](#)

Eligible Measures

The following recommended measures would be eligible for this program:

- C.1 Senior Center Microgrid
- 0 Wastewater Treatment Plant Microgrid
- C.3 Electric Vehicle Charging Stations

Application Process

To begin the application process under this grant announcement, Pinole would go to Grants.gov and click the “Search Grants” tab. Search the opportunity number associated with this opportunity (EPA-ROAR-CPRGI-23-07). Once the opportunity has been selected, click the red “Apply” button at the top of the “View Grant Opportunity” page.

The electronic submission of applications to this funding opportunity must be made by an official representative of the City of Pinole who has been registered and authorized by the organization to sign applications for federal financial assistance. Contact Grants.gov for assistance at 1-800-518-4726 or support@grants.gov.



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CITY COUNCIL REPORT

12.B.

DATE: AUGUST 20, 2024
TO: MAYOR AND COUNCIL MEMBERS
FROM: SANJAY MISHRA, PUBLIC WORKS DIRECTOR
SUBJECT: RECEIVE A REPORT ON MUNICIPAL BROADBAND FEASIBILITY STUDY
REPORT (CIP# IN2102)

RECOMMENDATION

Receive a report on Municipal Broadband Feasibility Study and provide directions on next steps.

BACKGROUND

Over the past 20 years, communications, entertainment, and the internet have seamlessly merged into a unified media platform. This convergence is supported by the significant growth of network infrastructure capacity, delivered through broadband connections to the internet. Broadband is a high-speed internet connection that allows video streaming and similar data-intensive applications. Broadband can be delivered through fiber optic cables placed above or below our streets and through wireless radio transmission by commercial service providers such as Verizon, Comcast, AT&T, Sonic, and others.

Access to affordable and reliable broadband is essential for our communities and is key to promoting equality. Today, we depend on broadband for education, workforce development, economic growth, healthcare, and public safety. According to the Public Policy Institute of California, 95% of Californians have internet access at home. However, those without broadband infrastructure face a significant disadvantage, experiencing what is known as the digital divide.

On April 11, 2023 City staff released a Request for Proposals (RFP) soliciting consultant proposals to complete a Broadband Opportunities Assessment. On June 20, 2023, a contract was awarded to CSW/ST2 to complete a broadband opportunities assessment. The scope for this study included Broadband Trends and Technology Review, Existing Service and Infrastructure Analysis, Gap Analysis, Public Assets Analysis, Enhancement Options, and Recommended Next Steps.

REVIEW AND ANALYSIS

Each year, the California Public Utilities Commission (CPUC) collects data to provide California residents and local agencies with information on broadband services. This data is presented in the California Interactive Broadband Map, which can be found at <https://broadbandforall.cdt.ca.gov/interactive-broadband-map/>. Based upon the most recent version of the map, Pinole is fortunate to have various internet service providers including

AT&T and Comcast as well as Sonic which is currently deploying in the City that offer wired internet connections to households.

To understand the current status of broadband connectivity within the community, CSW/ST2 completed an in-person meeting at the Pinole Senior Center as well as conducted an online survey. The study assessed five general factors: available assets, current state of the market, available funding, infrastructure requirements including a conceptual design, and estimated costs and potential revenue.

The attached Broadband assessment report provides further details.

FISCAL IMPACT

There is no fiscal impact to receive this report.

ATTACHMENTS

- A. Municipal Broadband Assessment Report



City of Pinole

BROADBAND ASSESSMENT

June 2024 (Version 2.1)

DRAFT DOCUMENT – INTERNAL REVIEW ONLY

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PREPARED BY:



Robert Stevens, PE, TE
121 Park Place,
Richmond, CA 94801

Summary of Version Changes.

Not a public release document. This is a draft document for internal review only.

TABLE OF CONTENTS

INTRODUCTION	1
WHAT IS BROADBAND INTERNET?	1
STATUS OF BROADBAND IN PINOLE.....	4
OUTREACH	8
MUNICIPAL NETWORK	16
RECOMMENDATIONS.....	20
CONCLUSION.....	22

LIST OF FIGURES

Figure 1 Fiber optic cable serves as the backbone for broadband communications.	Error! Bookmark not defined.
Figure 2 The relationship between throughput, bandwidth and Latency	Error! Bookmark not defined.
Figure 3 Typical 5G wireless antenna	Error! Bookmark not defined.
Figure 4 Broadband Availability in Pinole	Error! Bookmark not defined.
Figure 5 Pinole Wireline Broadband Capacity	Error! Bookmark not defined.
Figure 6 T-Mobile S22 Predicted Download Speed	5
Figure 7 CASF Priority Eligible Locations.....	6
Figure 8 Results of Online survey for users with less than 51 Mbps of access.....	7
Figure 9 Pinole Senior Center August 17, 2023.....	Error! Bookmark not defined.
Figure 10 Survey Flyer	Error! Bookmark not defined.
Figure 11 Age range of survey respondents.	Error! Bookmark not defined.
Figure 12 Survey Questions	Error! Bookmark not defined.
Figure 13 Locations of survey respondents by street.....	Error! Bookmark not defined.
Figure 14 Communications and entertainment services used at home.....	Error! Bookmark not defined.
Figure 15 Left. Wired Service Provided - Right. Wireless Service Providers	Error! Bookmark not defined.
Figure 16 Survey respondent internet speed test results.....	Error! Bookmark not defined.
Figure 17 Survey respondent internet uses.	Error! Bookmark not defined.
Figure 18 Cost of internet access.....	Error! Bookmark not defined.
Figure 19 Issues with internet service.....	Error! Bookmark not defined.
Figure 20 Microtrench	Error! Bookmark not defined.
Figure 21 Directional Bore.....	Error! Bookmark not defined.
Figure 22 Conceptual Municipal Network.....	Error! Bookmark not defined.
Figure 23 West County Network	Error! Bookmark not defined.
Figure 24 CPUC Low-Cost Internet Plan Portal.....	Error! Bookmark not defined.

LIST OF TABLES

Table 1. Municipal Network Capital Improvement Cost	18
Table 2 Annual Municipal Network Operating Costs	Error! Bookmark not defined.

INTRODUCTION

In the late 19th century, Alexander Graham Bell invented the telephone, enabling long-distance voice communication. Over the next century, communications evolved into the smartphones we use today, offering nearly universal connectivity and information access. By the mid to late 20th century, television programming transitioned to paid cable systems rather than over-the-air broadcasts. In the 1990s, internet access became mainstream through services like AOL.

Over the past 20 years, communications, entertainment, and the internet have seamlessly merged into a unified media platform. This convergence is supported by the significant growth of network infrastructure capacity, delivered through broadband connections to the internet. Broadband is a high-speed internet connection that allows video streaming and similar data-intensive applications. Broadband can be delivered through fiber optic cables as shown in Figure 1 placed above or below our streets and through wireless radio transmission by commercial service providers such as Verizon, Comcast, AT&T, Sonic, and others.

Access to affordable and reliable broadband is essential for our communities and is key to promoting equity. Today, we depend on broadband for education, workforce development, economic growth, healthcare, and public safety. According to the Public Policy Institute of California, 95% of Californians have internet access at home. However, those without broadband infrastructure face a significant disadvantage, experiencing what is known as the digital divide.

As the internet has become crucial for communication, work, education, medical assistance, and entertainment, it is now considered a utility, akin to water or electricity. While the communications industry is regulated, some advocate for providing internet access over

a publicly owned network to ensure neutrality. However, the cost and maintenance of such a network often exceeds the budgets of many municipalities.

Partnering with commercial providers to subsidize installation could expand choices. Both Sonic and Astound are actively expanding their networks in

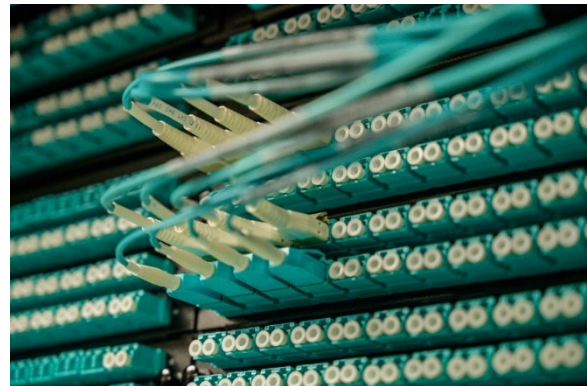


Figure 1 Fiber optic cable serves as the backbone for broadband communications.

Bay Area communities, providing broadband internet access to residences and businesses. Additionally, Crown Castle has several active projects constructing fiber optic-based networks linking wireless sites throughout neighborhoods.

Based on our review of California's broadband database, community feedback, and discussions with internet service providers, we are pleased to report that Pinole is well-served with high-speed internet connectivity. This assessment details our findings and makes recommendations to ensure Pinole remains at the forefront of technology.

WHAT IS BROADBAND INTERNET?

In basic terms, broadband refers to various high-capacity transmission technologies that transmit data, voice, and video across long distances and at high speeds. Common mediums of transmission include coaxial and fiber optic cables as well as radio waves. We measure the speed of a network in terms of data rate in the unit of bits per second (bps). For reference, a

traditional household telephone line has a maximum data rate of 56,000 bps.

We evaluate network performance by examining its bandwidth, throughput, and latency, as shown in Figure 2. **Bandwidth** represents the theoretical maximum capacity of a connection, such as 100 million bits per second (Mbps), indicating a robust link to the internet. **Throughput** is the actual rate of data transfer through the connection, which can be lower than the bandwidth due to factors like network congestion. **Latency**, measured in milliseconds (ms), is the time it takes for data to travel across the network. While high latency does not always reduce throughput, it can significantly impact real-time communications like voice and video calls. Additionally, download and upload speeds in a network link can differ. When they are the same, the connection is referred to as symmetrical.

Commercial telecommunications companies provide wireline broadband services in communities using a combination of fiber optic and copper cabling. Typically, the copper cables extend into our homes and offices from the street over short distances of about 300 feet. Fiber optic cables act as the backbone of the broadband service spanning cities and states; they are even located under oceans, providing worldwide interconnectivity. Fiber optic cables transmit data through light waves that can travel over long distances without degradation. Each cable can consist of thousands of individual optical strands able to transmit data at commercially viable rates up to 100 Gbps (gigabits per second). The main challenge with wireline service is existing copper cables within a provider's network will reduce broadband speeds and the cost to construct new fiber optic cables can be expensive.

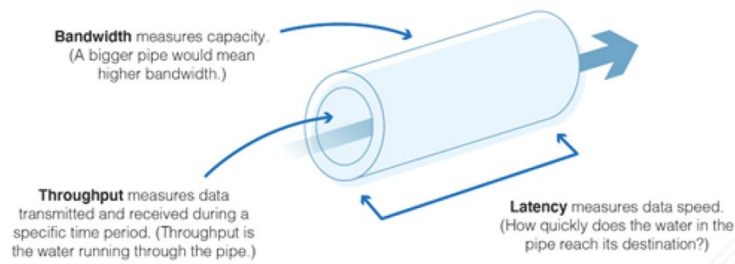


Figure 2 The relationship between throughput, bandwidth and Latency

The Federal Communications Commission's (FCC) definition of a broadband internet connection is 25 million bits per second (Mbps) of download and 3 Mbps of upload. California's definition is even lower at only 10/ 1 Mbps of download/ upload speeds. These standards are no longer relevant as the demands required by today's applications and video conferencing exceed this value considerably. For a typical household that includes four people who use the internet for work, education, video streaming, and conference calls, requires a connection rate of about 100 Mbps at a latency at less than 15 milliseconds.

Within our homes, we often provide wireless broadband access (Wi-Fi) to the internet using local area networking devices that connect to our service providers wireline network. These devices allow us to connect at data rates of up to 9,608 Mb/s (IEEE 802.11ax) at 2.4, 5, and 6 GHz. However, these devices work best with line-of-sight use, and obstructions such as walls, appliances, and furniture greatly reduce range. This application is often used in commercial settings such as shopping districts and airports with WIFI repeaters that extend range.

Commercial providers deliver wireless broadband services through what is known as the fifth-

generation (5G) cellular network. The provider divides the service area into small geographic areas called cells. Each cell has a base station with fixed antennas as shown in Figure 3, that connect to every 5G wireless device within the cell. Typically, the base stations are connected by fiber optic cable or dedicated wireless links to the service provider's backbone network. A 5G network can deliver a peak data rate of 10 Gbps but this can be reduced by multiple users in the cell as well as the wireless signal can be attenuated by vegetation and building walls.



Figure 3 Typical 5G wireless antenna

STATUS OF BROADBAND IN PINOLE

Each year, the California Public Utilities Commission (CPUC) collects data to provide California residents and local agencies with information on broadband services. This data is presented in the California Interactive Broadband Map, which can be found at <https://broadbandforall.cdt.ca.gov/interactive-broadband-map/>. Based upon the most recent version of the map, Pinole is fortunate to have various internet service providers, including AT&T and Comcast as well as Sonic, which is currently

deploying in the City that offer wired internet connections to households. The CPUC's broadband map as shown in Figure 4 illustrates that most of the City has at least 25 Mbps download and 3 Mbps upload of connection to the internet. In addition, the CPUC has found that at least one subscriber in a census block receives 1 Gbps and 2 Gbps of connectivity, as shown in Figure 5. This indicates that there is robust infrastructure to support broadband in Pinole.

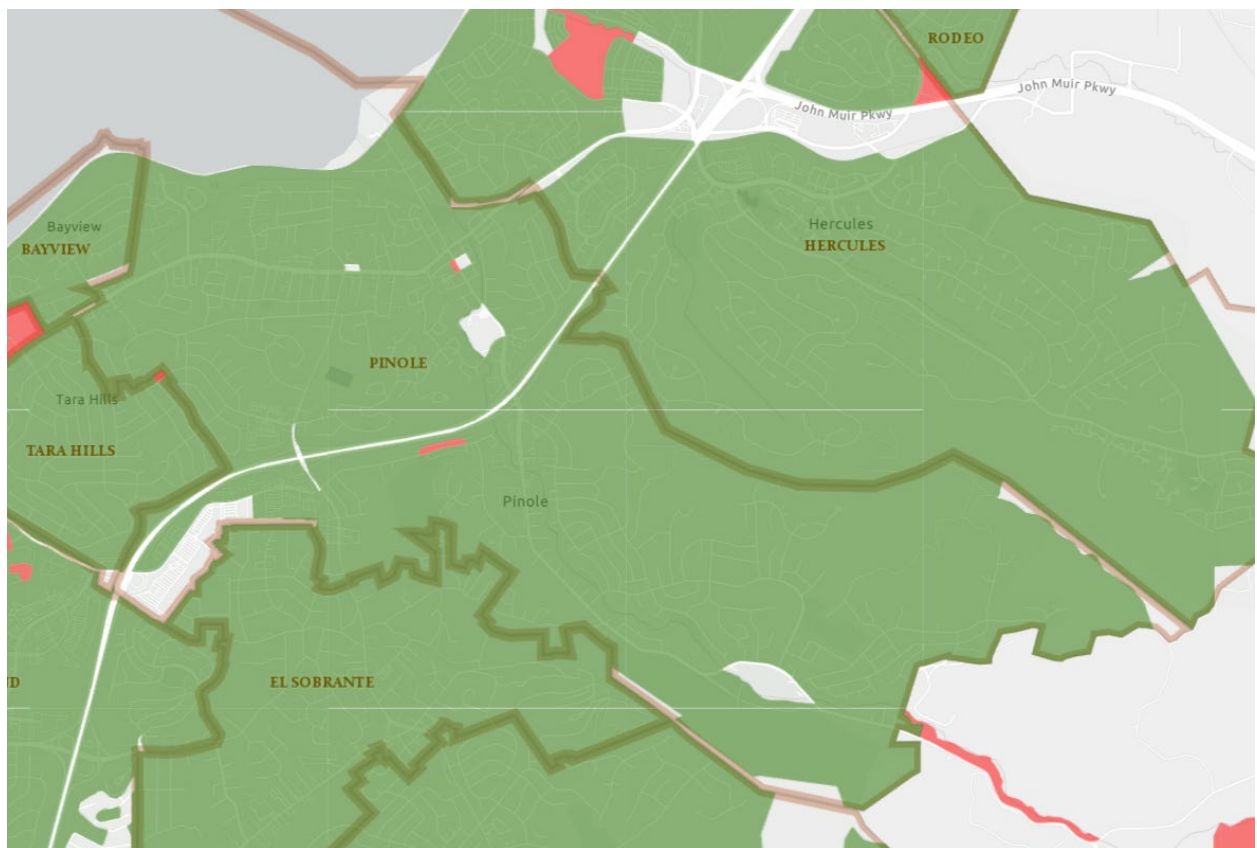


Figure 4 Broadband Availability in Pinole

Wireline Consumer Served Status - No Legacy Tech
■ Served $\geq$ 25 Mbps Down / 3 Mbps Up
■ Unserved $<$ 25 Mbps Down / 3 Mbps Up
Unpopulated

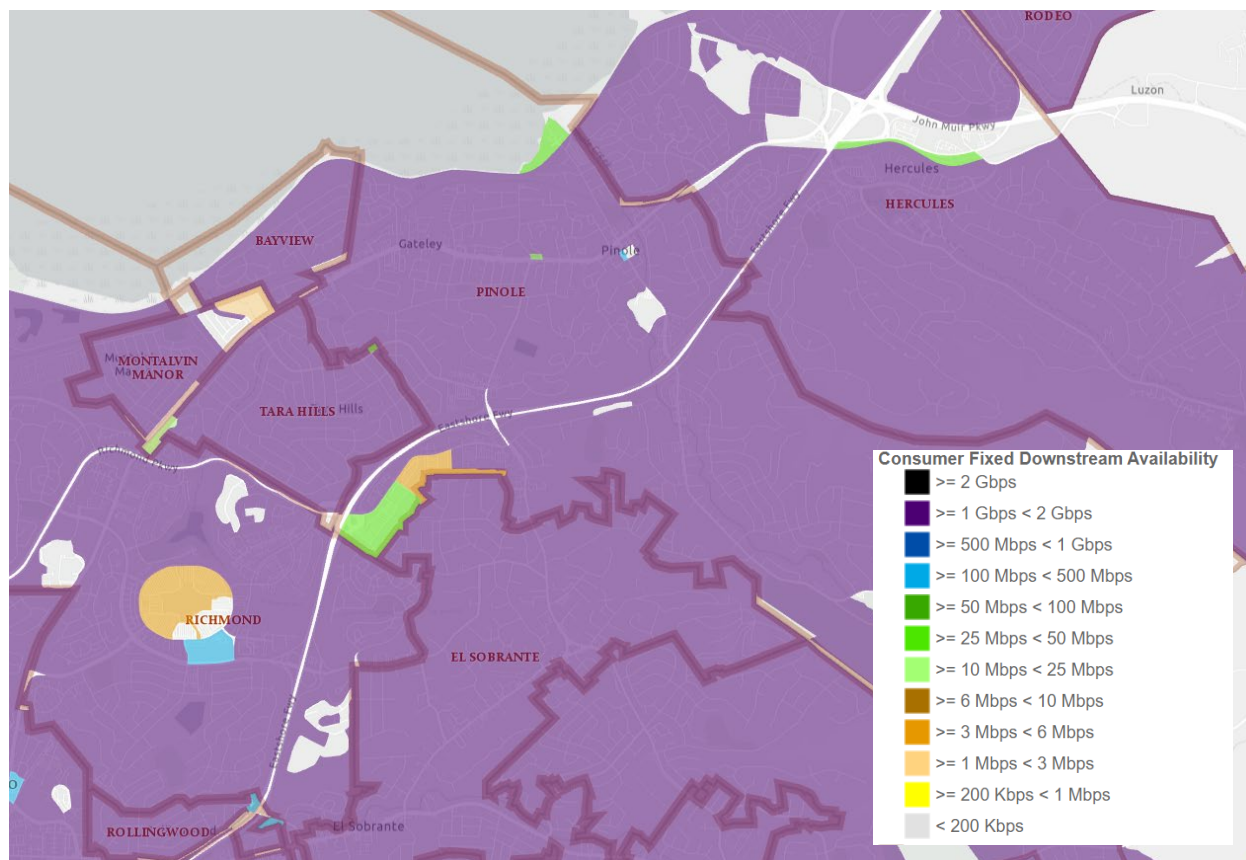


Figure 5 Pinole Wireline Broadband Capacity

The City also has broadband wireless coverage offered by ATT, Sprint, T-Mobile, and Verizon serving connections ranging from 20 to 300 Mbps. According to the CPUC's CalSPEED test, the highest-speed provider in Pinole is T-Mobile, as shown in coverage map in Figure 6.

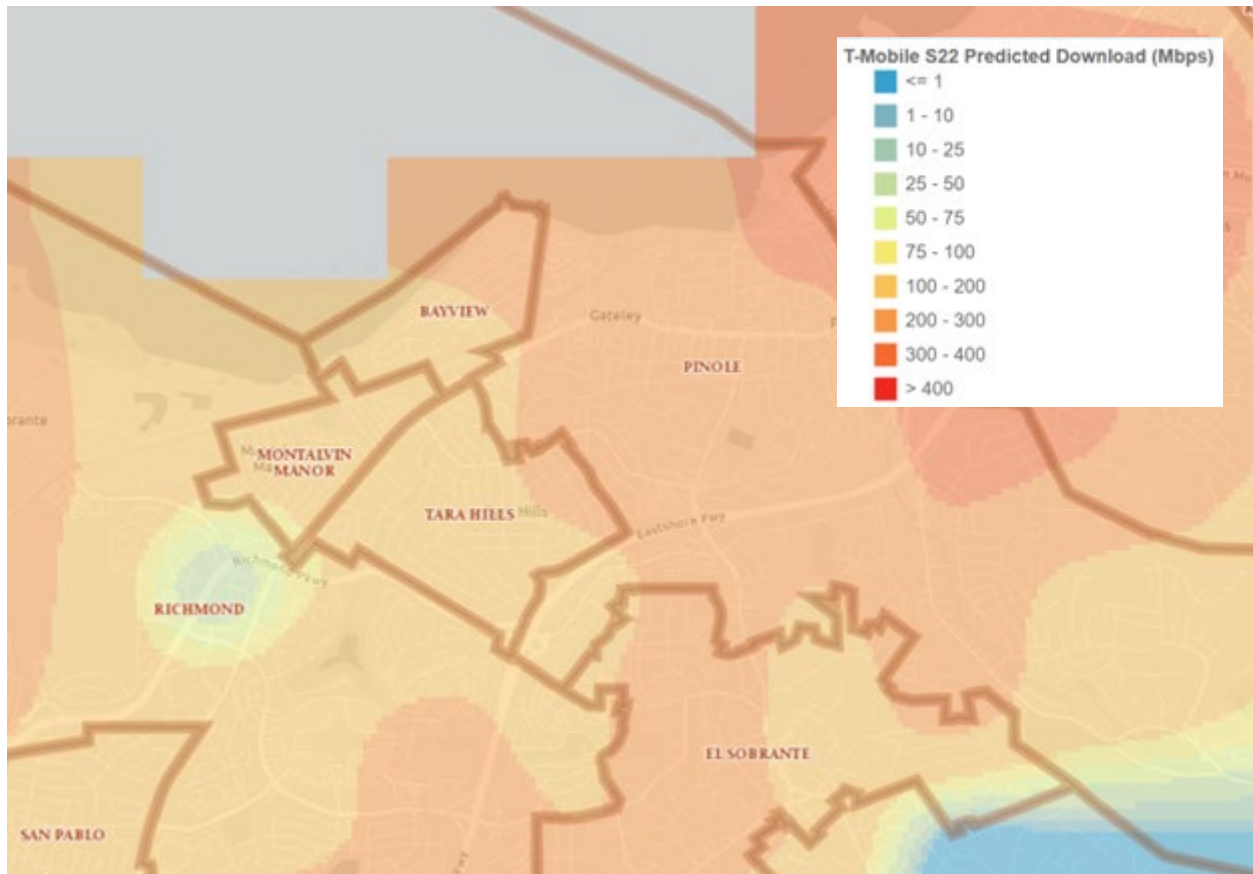


Figure 6 T-Mobile S22 Predicted Download Speed

The CPUC tool indicates that there are about 40 locations in Pinole, as shown in Figure 7, that have less than 10 Mbps download and 1 Mbps upload or no access to broadband at all. These sites, known as priority eligible, can receive funding from the CPUC's California Advance Service Fund (CASF) to improve broadband access.

We have compared these results with actual reported data rates from Pinole residents and businesses, as detailed in the Outreach section of this report. Figure 5 illustrates that 25 of the 128 survey respondents receive below 51 Mbps of internet access. Five, or about 4% of respondents, receive less than 10 Mbps and twenty, about 16% of respondents, have between 11 to 50 Mbps of internet connectivity. There does not appear to be a strong geographic link to the low broadband rates.

To evaluate internet options for businesses in Pinole, we made calls to AT&T, Comcast, and Sonic and requested service at various commercial addresses. All offered services and stated they could provide up to 1 Gbps of symmetrical broadband connectivity. We also confirmed that T-Mobile offers a wireless option at 245 Mbps.

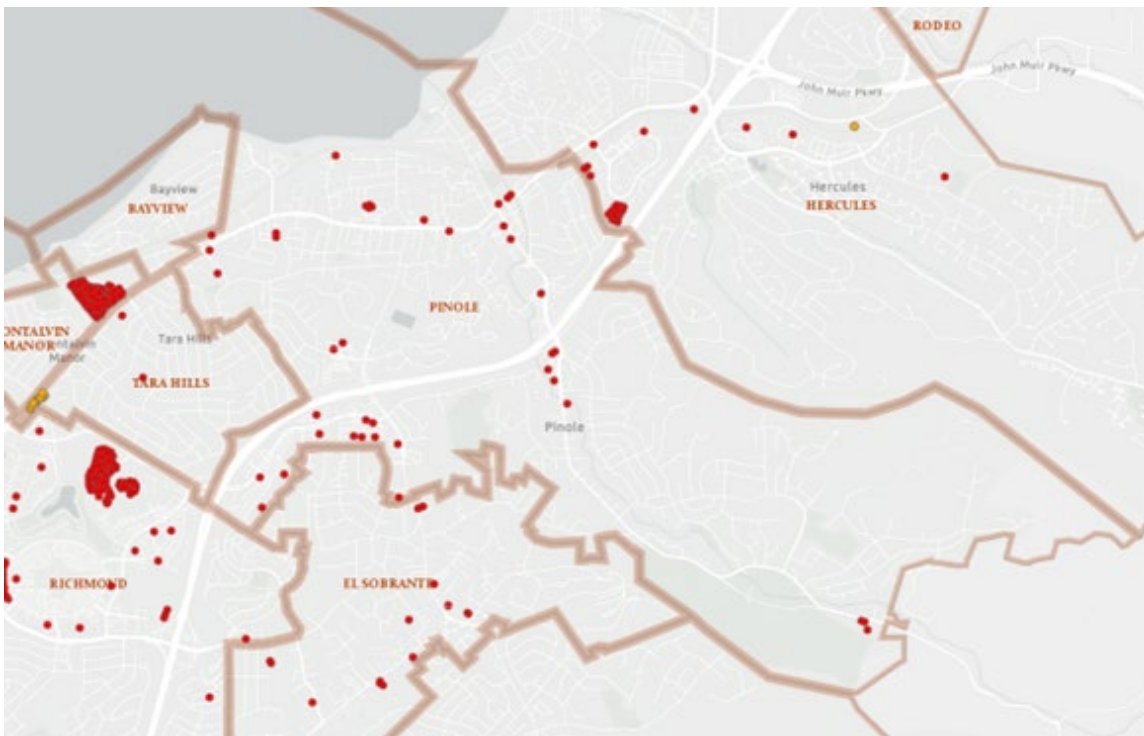


Figure 8 CASF Priority Eligible Locations

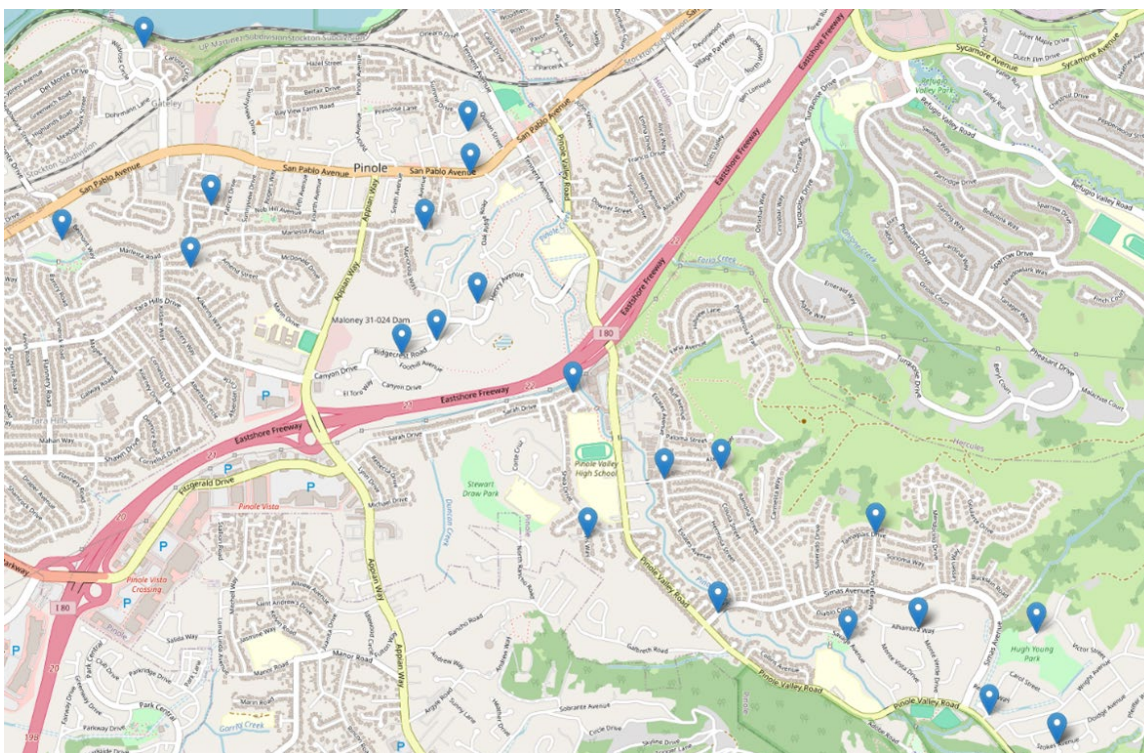


Figure 7 Results of Online survey for users with less than 51 Mbps of access

OUTREACH

To understand the current status of broadband connectivity within the community, we completed an in-person meeting at the Pinole Senior Center as well as conducted an online survey. Members of our team visited the Senior Center on August 17, 2023, as shown in Figure 9 and asked a range of questions, as illustrated in Figure 12.



Figure 9 Pinole Senior Center August 17, 2023

We spoke with approximately 30 senior center patrons. All were internet users, and those who lived in Pinole had no concerns about gaining access. However, some noted that it would be helpful to have classes available to learn to use internet-based tools such as search and artificial intelligence. Also, some asked about programs related to lower-cost internet access.

To understand internet access needs in the greater community, we conducted an online poll, which was first advertised in the City Manager's report, "The Pulse," on August 8, 2023. In addition, we created flyers, as shown in Figure 11 and posted them at City Hall, Senior Center, and Pinole Library. The questions asked are shown in Figure 12.

By October 2023, we received 128 responses to the survey. The results of the survey indicated that about 91% of respondents reside in single-

family homes and that 98% were residents rather than owners of a business in Pinole. We present the age range of respondents in Figure 10 and we illustrate the locations of respondents in Figure 13.

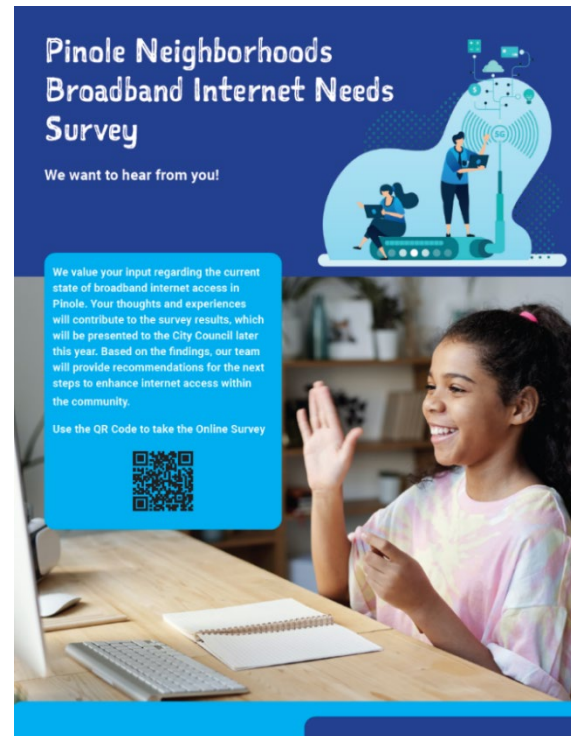


Figure 10 Survey Flyer

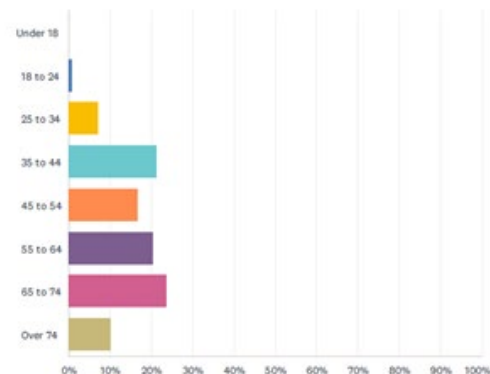


Figure 11 Age range of survey respondents.



Pinole Neighborhoods Broadband Internet Needs Survey

The City of Pinole is conducting a comprehensive study to assess the adequacy of internet access within the community. In this study, we evaluate the speed of internet connections in terms of bandwidth, which refers to the total data delivery speed to computers, televisions, and similar devices. Bandwidth is commonly measured in megabits per second (Mbps), and higher bandwidth generally leads to a more satisfactory user experience.

We want to know if there are **barriers** that **prevent you** from using the **internet**.

We value your input regarding the current state of broadband internet access in Pinole. Your thoughts and experiences will contribute to the survey results, which will be presented to the City Council later this year. Based on the findings, our team will provide recommendations for the next steps to enhance internet access within the community.

1. Are you a Pinole resident?

- ☐ Yes
- ☐ No

2. What type of home do you live in?

- ☐ Single family residence
- ☐ Multi-family residence (Apartment)
- ☐ Accessory dwelling unit (In-law unit)

3. What age group are you in?

- ☐ Under 18
- ☐ 18 to 24
- ☐ 25 to 34
- ☐ 35 to 44
- ☐ 45 to 54
- ☐ 55 to 64
- ☐ 65 to 74
- ☐ Over 74

4. How many people live in your home?

- ☐ 1 to 2
- ☐ 3 to 4
- ☐ More than 4

5. What communications and entertainment services do you have at your home? (Check all that apply)

- ☐ Cable television (Xfinity, AT&T, etc)
- ☐ Land line telephone access (Xfinity, AT&T, etc)
- ☐ Satellite television (DirectTV, Dish, etc)
- ☐ Mobile (cell) phone (Verizon, AT&T, etc)
- ☐ Wired internet access (Xfinity, AT&T, etc)
- ☐ Wireless internet access 5G (Verizon, etc)
- ☐ Satellite internet service (Viasat, Starlink, etc)

(Continued on other side)

Pinole Neighborhoods Broadband Internet Needs Survey

6. How often do you use the internet?
- ☐ Never
 - ☐ Less than 4 hours per week
 - ☐ Between 5 and 10 hours per week
 - ☐ More than 10 hours per week
7. If you do not have the internet in your home but you do use it, where do you get internet access?
- ☐ Family member or friend's home
 - ☐ Library
 - ☐ Mobile phone or similar device
 - ☐ Other: _____
8. What are the challenges for you using the internet? (Select all that apply)
- ☐ Cost
 - ☐ Complexity
 - ☐ Privacy concerns
 - ☐ I just don't need it
 - ☐ Other: _____
9. If you selected "Cost" or "Complexity" in Question 8 and you had the means to alleviate these concerns, would you have internet access in your home?
- ☐ Yes
 - ☐ No
10. Are you familiar with the California Public Utilities Commission's "Low Cost Internet Plans"?
- ☐ Yes
 - ☐ No
11. Please let us know any other thoughts you might have regarding broadband internet services in Pinole:
- _____
- _____
- _____
- _____
- _____

Thank you for your feedback!



Figure 12 Survey Questions

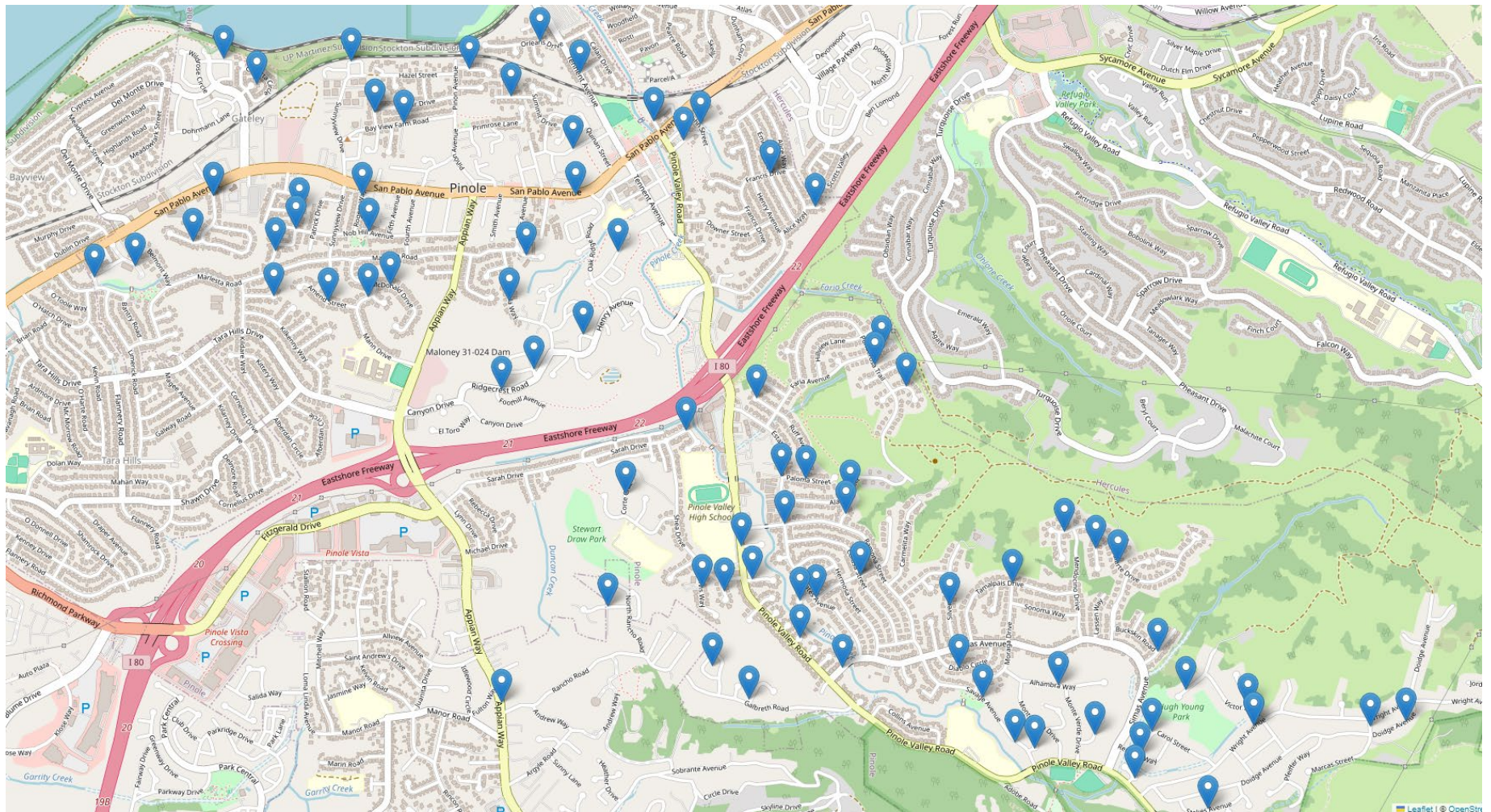


Figure 13 Locations of survey respondents by street

The survey indicated that about 62% of the households have 1 or 2 people, 33% have 3 to 4, and about 5% have more than 4. Most of the respondents have both a mobile phone and wired internet service, as shown in Figure 14. About

75% of respondents to the survey indicated that they subscribe to Xfinity (Comcast) for wired internet service, while about 35% used AT&T for mobile phone access, as shown in Figure 15.

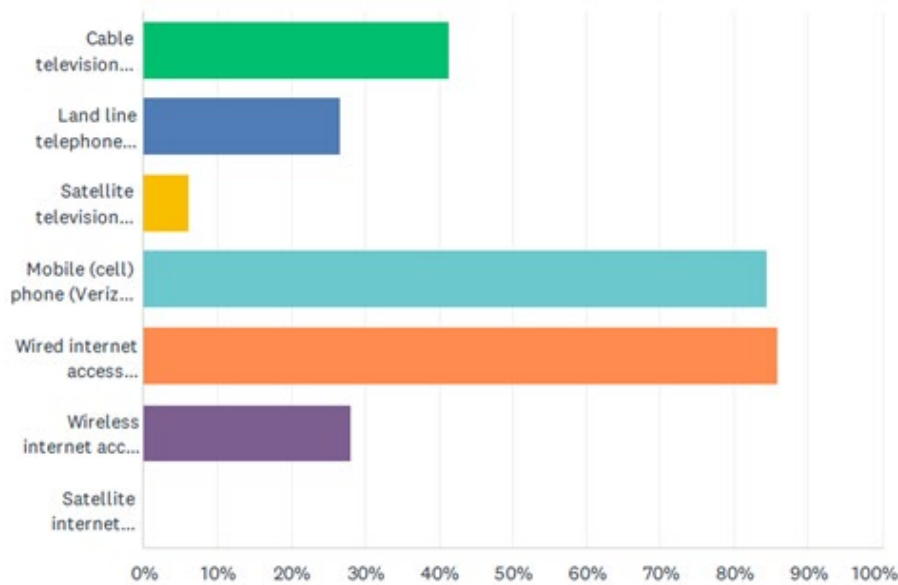


Figure 14 Communications and entertainment services used at home

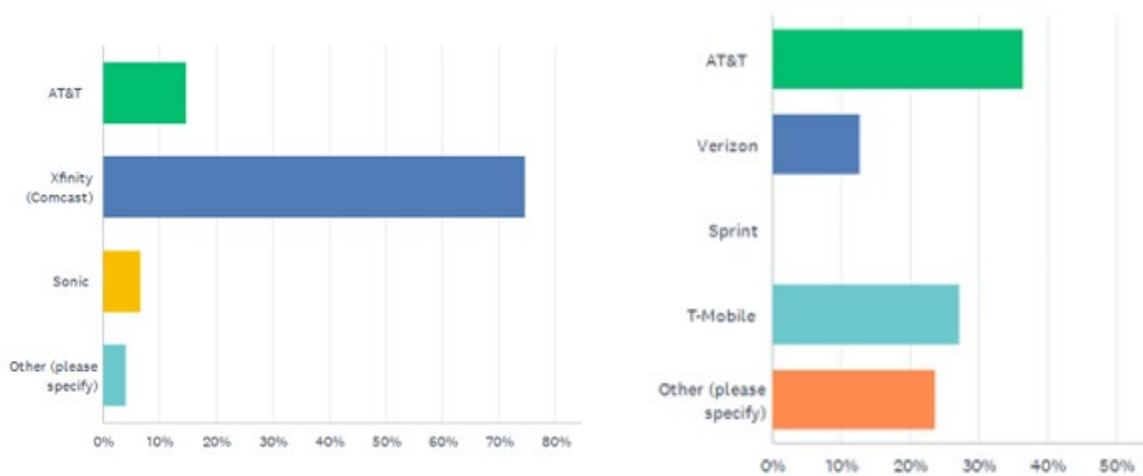


Figure 15 Left. Wired Service Provided - Right. Wireless Service Providers

The survey asked users to test their internet speed by using an online tool. As shown in Figure 16, about 60% of respondents had internet speeds greater than 100 Mbps, which exceeds the definition of broadband access and provides a household of four with a robust internet connection. However, five of the respondents had internet speeds less than 10 Mbps, which are summarized as follows:

In reviewing the comments, survey respondent number 7 seeks other options beyond AT&T and Comcast. The responses received from Oakhill Court note that AT&T only provided basic internet, which limits speeds to 10 Mbps of download capacity. These locations do not appear to correspond to the CASF Priority Eligible properties.

Respondent ID	Provider	Location	Structure Type
7	Comcast	Martinez Court	Single Family Residence
57	Comcast	East Meadow Avenue	Single Family Residence
59	AT&T	Oakhill Court	Single Family Residence
61	AT&T	Oakhill Court	Multi Family Residence
115	AT&T	San Pablo Avenue	Business

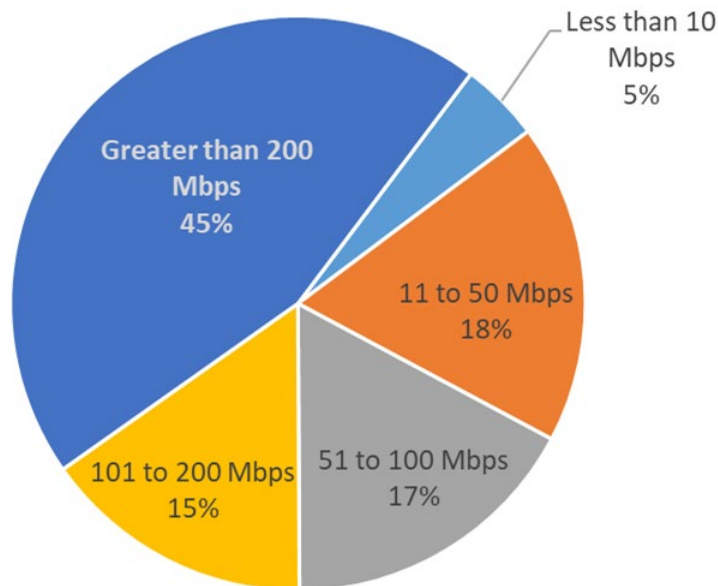


Figure 16 Survey respondent internet speed test results

The survey indicates that 89% of respondents use the internet more than 10 hours per week, while the remainder use it between 5 and 10 hours per week. According to a 2018 report from the University of Southern California’s Annenberg Center for the Digital Future, Americans spend an average of 23.6 hours per week online. The uses are diverse, as shown in Figure 17; about 70% of respondents use the internet to work from home.

Most of the respondents spend more than \$75 per month for internet service, as shown in Figure 18. According to a 2024 study provided by the USC and the California Emerging Technology Fund (CETF), the average cost of internet access in California is \$86.60 per month.

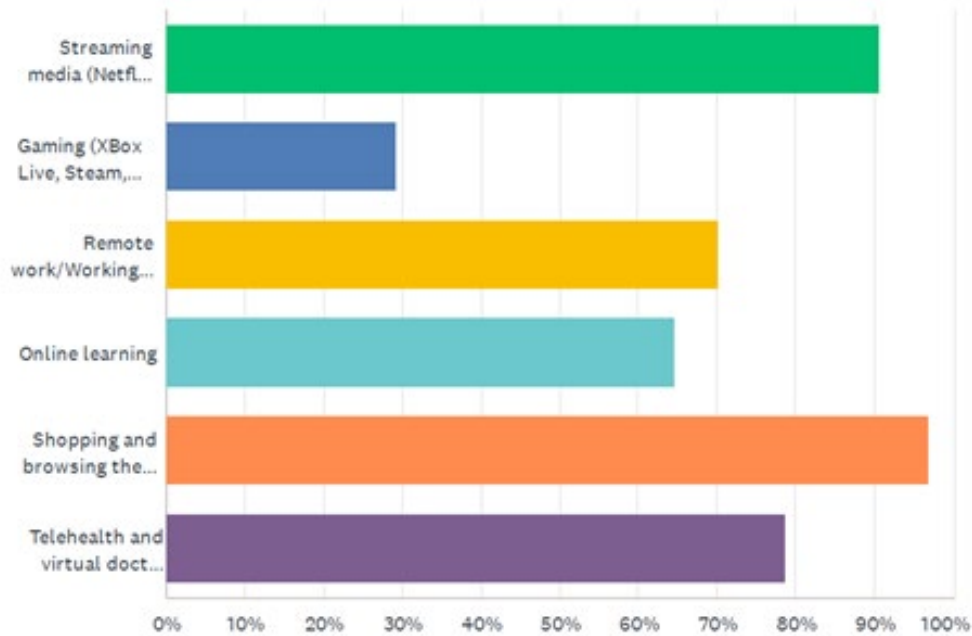


Figure 17 Survey respondent internet uses

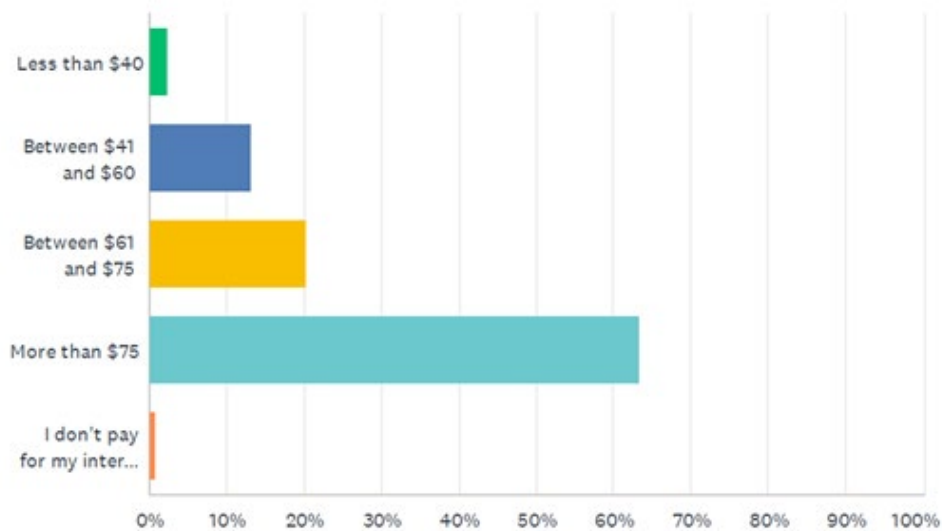


Figure 18 Cost of internet access.

Although many respondents feel the cost is too expensive, 57% of respondents are not looking to change their internet service provider and over 83% are not familiar with the California Public Utilities Commission's Low-Cost Internet Service Plans.

budget. Wish there was another option for cable and internet services.

3. Would be nice to have cheaper options, but keeping the reliability that the more expensive providers have.
4. Xfinity keeps raising the price, a few dollars at

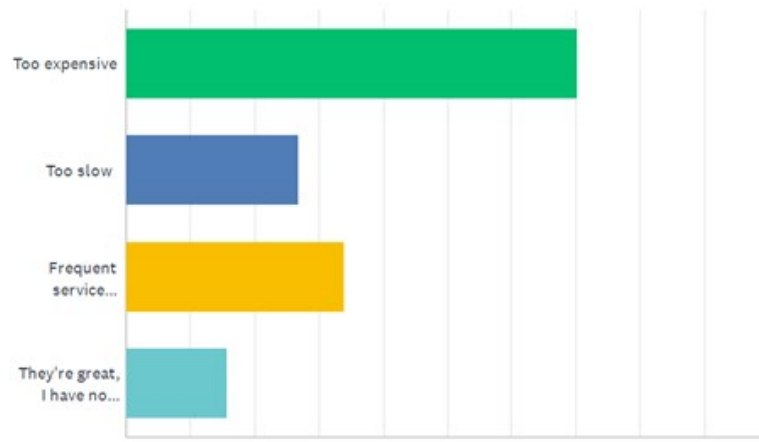


Figure 19 Issues with internet service

A summary of written comments organized by topic includes the following:

Those seek better performance

1. We have poor internet connection in this area!
2. Interested in having access to greater internet speeds including fiber optic options.
3. We have ended up with two service providers, Sonic & Xfinity. We needed a faster connection for work so recently added Xfinity. We would have stayed with Sonic primarily as we would have been with them for several years. I was reluctant to give up their service entirely as they are a smaller business, and we prefer to support them.

Cost concerns and choice

1. I think the city should look into creating a self-sustaining, non-profit 501(c)3 org that offers municipal broadband at actual cost.
2. Feel like we have no options except for Xfinity which is over \$200 a month. It is way over our

a time. Would love to have Sonic. I have friends who have it and they love it.

5. AT&T keeps raising its rates. I wonder if internet should be a public utility.
6. It should not be as expensive.
7. It would be nice to have options other than Comcast.
8. Not enough competition. Only two choices in the area where I live.
9. Google Fiber would be nice or anything better than AT&T and Xfinity.
10. Would like AT&T fiber in this area.

General comment

1. It needs to be better.
2. It is important to remember that I and many people use the internet for monitored home security systems.
3. As soon as Sonic's build out is done Pinole will have world class service. Hopefully soon.
4. Please put Sonic in Pinole Valley.
5. My work subsidizes my internet bill but if it did not, it would be very expensive for me to pay.

6. No access to Sonic but hoping they cover my area soon.

MUNICIPAL NETWORK

If the City was to develop its own network to provide broadband internet service to the community, it could either use a Passive Optical Network (PON) or an Active Optical Network (AON). PON, which includes variations like GPON (Gigabit PON) and EPON (Ethernet PON), operates without active electrical components between the central office and the end-user, using optical splitters to divide a single fiber into multiple paths. This results in a cost-effective and energy-efficient system with lower maintenance requirements.

In contrast, AON, such as Active Ethernet, relies on active electronic devices, such as switches and routers, to manage the optical signals, enabling greater flexibility and higher bandwidth capabilities. However, this approach is more complex and expensive due to the need for powered equipment along the network path and increased maintenance efforts. While PON is generally favored for residential deployments due to its simplicity and lower cost, AON is preferred in scenarios requiring high performance and advanced network management.

The largest cost in developing a broadband network is the installation of the fiber optic cable. The least cost option is to install the cable overhead on utility poles if they exist. This requires joining the joint pole association to reserve space on the utility pole. This installation is subject to utility disruption if the overhead lines are damaged due to falling trees.

The preferred method is to install the fiber optic cable in underground conduits using trenchless construction methods. These conduits can be installed using a microtrench as shown in Figure 20, which insets the conduit and cable in a narrow trench within the asphalt pavement. This approach can be one of the least costly

trenchless methods but needs to be re-installed every time the street is re-surfaced.

Installation of conduits using the horizontal directional bore method, as shown in Figure 21 offers the most flexibility and protection for the fiber optic network. However, this approach is the costliest of the trenchless methods but significantly less expensive than construction by open excavation.

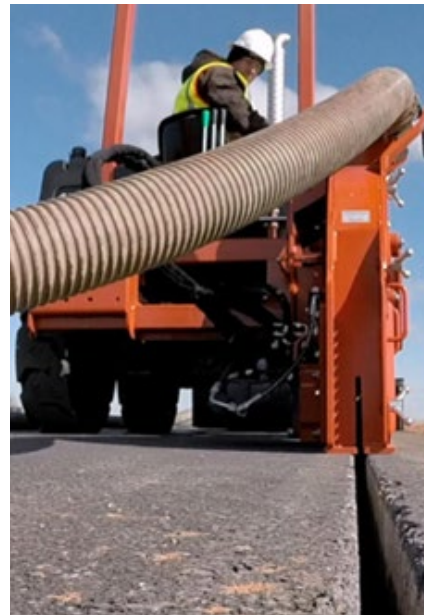


Figure 20 Microtrench



Figure 21 Directional Bore

For the purpose of this assessment, we have developed a preliminary design using an AON topology as shown in Figure 22. We assume that the Pinole would construct a fiber optic network throughout the City's 52.22 centerline miles of roadways to reach every parcel. The City would be divided into six sectors of generally an equivalent number of properties. Within each section, there would be a neighborhood cabinet to

aggregate fiber. Fiber optic backbone cables would link each of these neighborhood cabinets to a network operations center (NOC) potentially at the City of Pinole. From this location, the City would interconnect to a regional data center located in Oakland or Emeryville by leasing dark fiber (fiber that is not active) located within the Union Pacific Railroad's right of way.

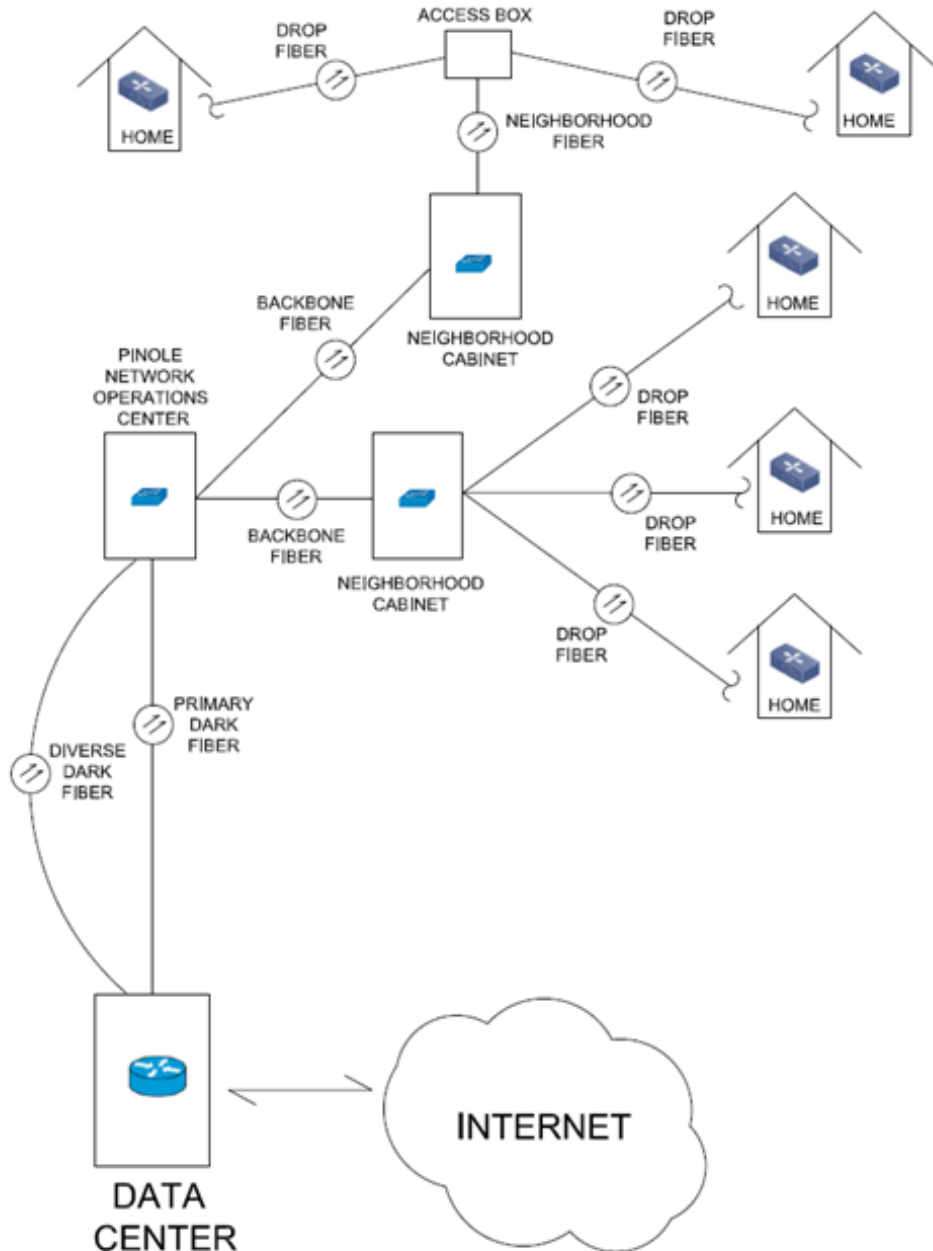


Figure 22 Conceptual Municipal Network

The City would lease space within the data center to place its transmission and routing equipment to serve the municipal network. Within the data center, the City would lease access to the global internet backbone from a Tier 1 internet service provider such as AT&T, CentruyLink, Verizon, NTT Communications, or Aerlion.

To ensure resiliency in the network, the City would construct fiber optic cables using diverse pathways in both the municipal network and the link to the data center. This would also require the installation of backup devices, such as switches and routers within the network. The approximate cost to develop this network would be \$74 million in 2024 dollars, as shown in Table 1.

The capital construction cost assumes that about 4,320 households (about 60%) in Pinole will subscribe to the service. The City would need to fund the operating cost of the network, including network supervision and maintenance, as well as the costs associated with dark fiber lease, data center hosting, and connection to the internet. We assume the City would outsource network operations and maintenance to a firm the specializes in this work. Assessing costs associated with fiber leases, hosting, and dedicated internet connections fluctuate widely, and we present conservative values in our analysis.

Table 1. Municipal Network Capital Improvement Cost

ITEM	QUANTITY	UNIT	UNIT COST	COST
General Conditions	1	LS	\$7,464,115	\$7,464,115
Install by Directional Bore	137,861	LF	\$65	\$8,960,952
Install by Micro Trench	137,861	LF	\$42	\$5,790,154
Pull Boxes	230	EA	\$1,100	\$252,745
Cabinets	8	EA	\$15,000	\$120,000
Backbone Fiber	95,124	LF	\$9	\$856,116
Neighborhood Fiber	158,540	LF	\$6	\$951,240
Drop Fiber	95,124	LF	\$3	\$285,372
Electrical Service	8	EA	\$45,000	\$360,000
Neighborhood Switch	8	EA	\$38,000	\$304,000
Service Entrance	4,320	EA	\$4,000	\$17,280,000
Optical Network Terminal	4,320	EA	\$500	\$2,160,000
Backbone Switch	12	EA	\$25,000	\$300,000
NOC	1	EA	\$100,000	\$100,000
Interconnect Router	1	EA	\$125,000	\$125,000
Backend Setup	1	EA	\$150,000	\$150,000
Dark Fiber Connection Fee	1	EA	\$50,000	\$50,000

Subtotal: \$45,509,693

Planning and Design: \$6,826,454

Construction Management: \$6,826,454

Development Subtotal: \$59,162,601

Contingency: \$14,790,650

Total Project Cost: \$74,000,000

If the City provided each subscriber with up to 100 Mbps of upload and download capacity and secured an internet connection of 10 Gbps, this would provide an oversubscription ratio of about 40:1. This means that for every 40 users, there is one shared bandwidth unit, which equates to at peak periods, not every user will achieve 100 Mbps of throughput. This oversubscription ratio is within industry standard but on the high side. Typically, the network would evaluate the network and adjust as needed to ensure a reasonable level of service. Based upon these assumptions, we present the annual operating costs in 2024 dollars shown in Table 2.

AT&T, Comcast, and Sonic. This analysis also does not consider equipment replacement costs, which will likely create significant operating costs in future years.

To reduce the operating costs, the City of Pinole could explore a partnership with the City of Richmond. Richmond operates a free wireless internet access network that is served by the Internet Archive. The Internet Archive is a non-profit digital library that operates a data center in Richmond. In addition, the City of Richmond has the rights to a bundle of fibers in the West Contra Costa County School District's network that spans

Table 2. Annual Municipal Network Operating Costs

ITEM	QUANTITY	UNIT	UNIT COST	COST
4 Strand Dark Fiber	12	MO	\$80,000	\$960,000
Data Center Fee	12	MO	\$5,000	\$60,000
10 Gbps Internet Connection	12	MO	\$30,000	\$360,000
USA Locating	12	MO	\$6,000	\$72,000
Network Operations Center	12	MO	\$5,000	\$60,000
Marketing	12	MO	\$2,500	\$30,000
Technical Support	12	MO	\$5,000	\$60,000
Field Support	12	MO	\$10,000	\$120,000
System Maintenance	1	ALLOW	\$100,000	\$100,000
			Subtotal	\$1,822,000

If we were to assume that the City would pay the capital costs to build the network and would recoup the operating costs through monthly fees, the monthly cost to each of the 4,320 subscribers would be about \$35 per month in 2024 dollars. This cost would increase annually with inflation. However, if the cost of the network deployment was born by the subscribers and this was funded through a municipal bond paid over 10 years at an interest rate of 5% and initial principal of \$81.4 million, the total cost to the subscribers would be about \$235 per month.

Richmond, San Pablo, Pinole, and Hercules as shown in Figure 23. By interconnecting to this network, it would remove much of the operating costs by reducing dark fiber, data center, and internet connection fees. Also, a partnership with other West County cities could reduce operating costs.

Over the first ten years, this value would be substantially higher than current plans offered by

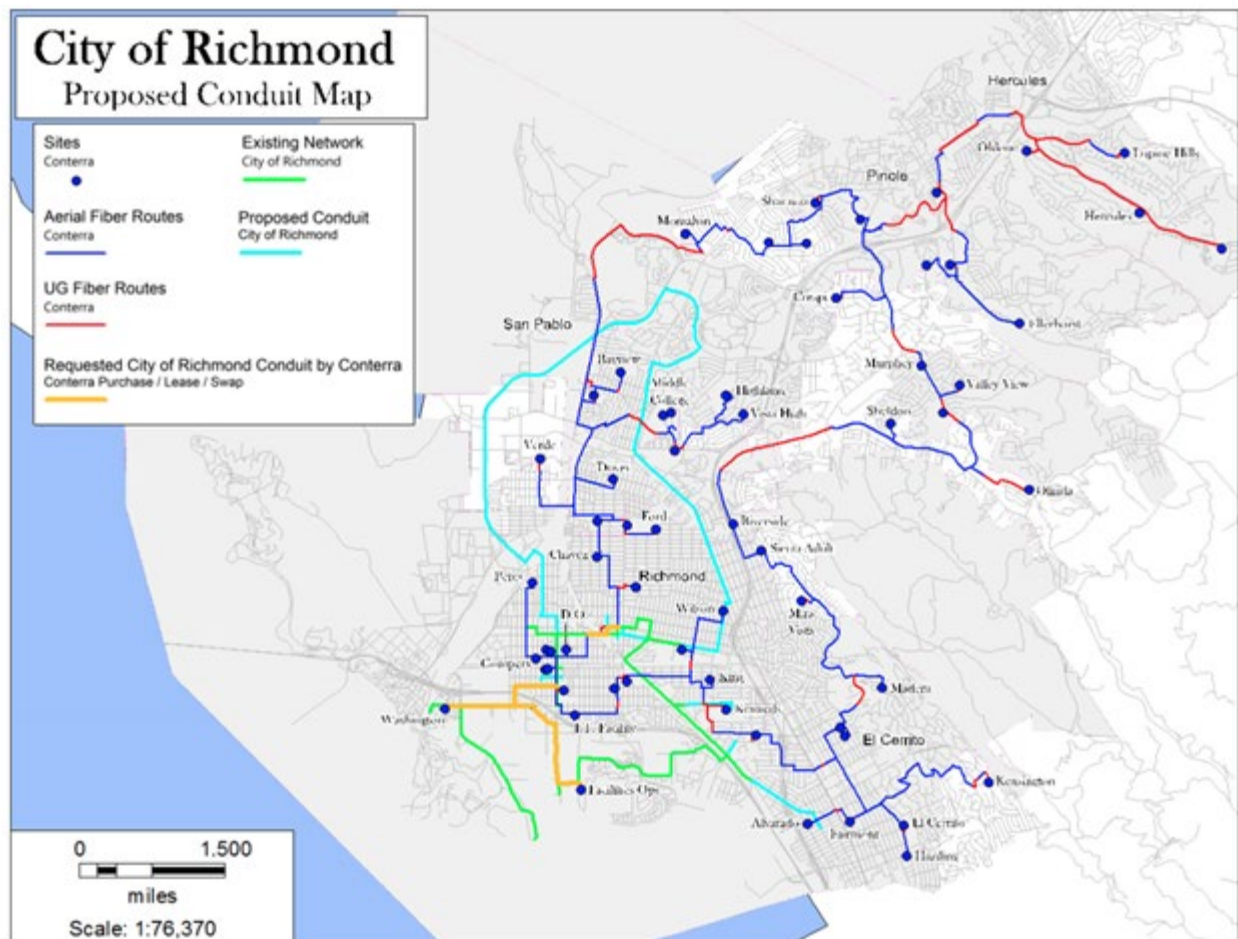


Figure 23 West County Network

RECOMMENDATIONS

According to the 2023 Statewide Digital Equity Survey from USC and the California Emerging Technology Fund (CETF), an estimated 3.5 million people in California remain disconnected from access to broadband internet. Both California and the United States offer funding to help close the gap. However, it is directed at communities that lack access to broadband. As previously noted, Pinole is served by several communications providers offering both wired and wireless broadband services. With Sonic entering Pinole, it increases competition, which should enhance broadband service and reduce costs for Pinole residents and businesses.

From a review of the City's encroachment permit records, we can see that AT&T, Comcast, and Sonic are actively working within the City of Pinole to improve their networks. This is a sign that these commercial service providers are actively investing in the community to build and improve their networks and offer Pinole increased

broadband capacity. However, based on our review of conditions and discussions with the community, we recommend the following:

1. **Low-Cost Internet Plans.** The California Public Utilities Commission (CPUC) offers information regarding low-cost plans at this link. Figure 24 is a screenshot from the CPUC website that illustrates options in Pinole. We suggest providing this information on the City's website and through other outreach methods used to inform the community.
2. **Education.** Several groups we spoke with at the senior center were interested in learning more about the internet tools. We suggest completing a survey at the senior center, library, and other community venues to learn what topics are of most interest. Based upon the results, we suggest the City provide classes to support users access to the internet.
3. **Infrastructure.** We recommend that all public works projects install conduits and pull

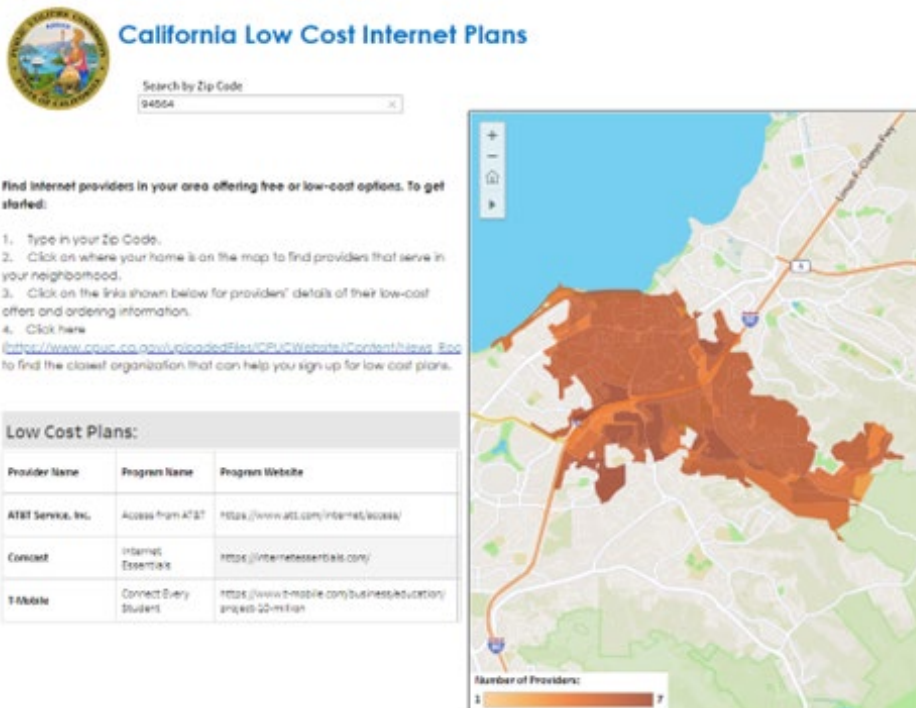


Figure 24 CPUC Low-Cost Internet Plan Portal

boxes with streets. This will facilitate the development of a broadband network serving the City. If possible, private developments should make improvements to the public right of way to install similar conduits and pull boxes.

4. **Intelligent Transportation System.** An intelligent transportation system (ITS) connects the City's traffic signals with fiber optic cables allowing for dynamic modifications to timing as well as remote monitoring. The Contra Costa Transportation Authority (CCTA) has installed fiber optic cables along certain segments of the City to support the I-80 corridor project and we understand that CCTA may be upgrading this system. We recommend Pinole, partner with CCTA to install a parallel conduit and fiber system to serve as the basis for its fiber network. In addition, we recommend interconnecting all traffic signals within Pinole to develop an ITS. The Federal Highway Administration offers grants to support these developments.
5. **West County Partnership.** As discussed in the previous discussed, the City of Richmond has access to fiber within the City of Pinole. Pinole should explore opportunities with Richmond to activate this fiber, interconnect it to the Internet Archive, and set up a municipal broadband network in partnership with other West County cities.
6. **Leverage Assets.** As the City develops broadband infrastructure, it should explore opportunities with commercial service providers to sell, lease, and/or swap conduits and fiber. This will help expand broadband opportunities for the Pinole community.
7. **CASF Funding.** For the 40 sites in Pinole that are eligible for CASF funds, coordinate with the CPUC and existing service providers to obtain funding to support enhanced broadband connectivity.
8. **Starlink.** New technologies are ever emerging, which can disrupt the communications industry. For instance,

Starlink is a satellite-based internet service which offers broadband speeds of 100 Mbps of download to 20 Mbps of upload. It is available in Pinole for \$120 per month and a onetime cost of \$599 for hardware.

CONCLUSION

Developing a new broadband network for residential users is an expensive and complex undertaking. Not only are construction costs high, but operating and maintaining the network requires significant resources. Moreover, there is no guarantee that customer adoption rates will meet expectations. Even well-funded projects such as Alphabet Inc.'s Google Fiber scaled back its expansion plans in 2016 due to significant cost challenges.

As technology advances rapidly, it becomes increasingly difficult to keep up. Educating our communities about internet access options is crucial. We recommend incrementally building broadband infrastructure in conjunction with public works projects and piggybacking on other construction efforts. This strategy can help form strategic partnerships with broadband providers to enhance access within the community. Additionally, federal and state grants, particularly in Intelligent Transportation Systems and security sectors, can be leveraged to build infrastructure that supports broadband access.