

City of Petaluma
Planning Division



**270 and 280 Casa Grande Road
Creekwood Housing Development Project**

Initial Study

October 2022



1501 SPORTS DRIVE, SUITE A, • SACRAMENTO • CA • 95834
OFFICE 916.372.6100 • FAX 916.419.610

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INITIAL STUDY

OCTOBER 2022

A. BACKGROUND

1. Project Title: 270 and 280 Casa Grande Road
Creekwood Housing Development Project
2. Lead Agency Name and Address: City of Petaluma
Planning Division
11 English Street
Petaluma, CA 94952
3. Contact Person and Phone Number: Greg Powell
Principal Planner
(707) 778-4340
4. Project Location: 270 and 280 Casa Grande Road
APNs: 017-040-051 and -016
5. Project Sponsor's Name and Address: Falcon Point Associates, LLC
3496 Buskirk Avenue, Suite 104
Pleasant Hill, CA 94523
(925) 939-3473
6. Existing General Plan Designation: Medium Density Residential
7. Existing Zoning Designation: Residential 4 (R4)
8. Required Approvals from Other Public Agencies: Conditional Letter of Map Revision
Section 404 Nationwide Permit (or Letter of Permission)
Section 401 Water Quality Certification
Section 1600 Lake and Streambed Alteration Agreement
National Pollutant Discharge Elimination System (NPDES) Construction General Permit
NPDES Phase II MS4 General Permit
9. Surrounding Land Uses and Setting:

The project site consists of two parcels totaling 5.2 acres that abut the eastern boundary of Casa Grande Road in the City of Petaluma. The 280 Casa Grande Road parcel contains an existing residence and undeveloped land covered in grasses. The 270 Casa Grande Road parcel contains an existing residence, several associated outbuildings, a landscaped backyard, and a small orchard in the northeast corner of the project site, within a depressed area, near Adobe Creek (Creek). The Creek and its associated vegetation forms the eastern boundary of the project site. The remaining portions of the 270 Casa Grande Road parcel are generally characterized by grasses that are routinely mowed or grazed to reduce fire hazards.

The project site is bound to the west by Casa Grande Road and to the east by the Creek and its associated riparian corridor. The project site's northern boundary abuts the Casa Grande Senior Apartments. A single-family residence is located further to the north. A single-family residential neighborhood is located to the east, across the Creek, with access from Spyglass Road. Further east from the single-family residences is a multifamily neighborhood, to which Lakeville Circle provides access. The project site's southern boundary abuts the Casa Grande Subdivision, which is currently under construction and will consist of 36 single-family residential units. An existing single-family residential neighborhood is located further to the south and abuts the southern property line of the Casa Grande Subdivision site. Casa Grande High School and Crinella Park are located to the west, across Casa Grande Road, from the project site. It should be noted that Sonoma Mountain High School, an alternative high school in the City, is also located on the Casa Grande High School campus.

10. Project Description Summary:

The proposed 270 and 280 Casa Grande Road Creekwood Housing Development Project (project) would include demolition of the on-site residence at 280 Casa Grande Road, retention of the existing residence at 270 Casa Grande Road, and development of 62 dwelling units. The proposed dwelling units would be constructed across three blocks (Blocks 1, 2, and 3). Block 1 units would be arranged in tri-plex configurations. Units within Blocks 2 and 3 would primarily be arranged in duet unit configurations. Each dwelling unit would include Usable Open Space (UOS) in the form of semi-private or private yard areas. In addition, the project would include construction of various on-site road and utility improvements, landscaping, and a new off-site public multi-use pathway, with a bridge connection over the Creek.

The project would require City approval of a Vesting Tentative Parcel Map, Site Plan and Architectural Review, and a Tree Removal Permit. In addition, the project would require Federal Emergency Management Agency (FEMA) approval of a Conditional Letter of Map Revision (CLOMR), as well as other approvals from responsible and trustee agencies, including, but not necessarily limited to, California Department of Fish and Wildlife (CDFW) approval of a 1600 Lake and Streambed Alteration Agreement and Regional Water Quality Control Board (RWQCB) approval of a NPDES Construction General Permit and NPDES Phase II MS4 General Permit.

11. Status of Native American Consultation Pursuant to Public Resources Code (PRC) Section 21080.3.1.

In compliance with Assembly Bill (AB) 52 (PRC Section 21080.3.1), a project notification letter was distributed to the Federated Indians of Graton Rancheria on May 26, 2022. The Federated Indians of Graton Rancheria submitted a response on June 16, 2022 requesting formal consultation with the lead agency, and in response, the City, as the lead agency, initiated consultation and met with the tribe on August 31, 2022.

B. SOURCES

The following documents are referenced information sources used for the purposes of this Initial Study:

1. Associated Lighting Representatives, Inc. *Lighting Analysis*. March 1, 2022.
2. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
3. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.
4. California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed June 2022.
5. California Department of Conservation. *Earthquake Zones of Required Investigation*. Available at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed August 2022.
6. California Department of Forestry and Fire Protection. *FHSZ Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2022.
7. California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details: Central Disposal Site (49-AA-0001)*. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1224?siteID=3621>. Accessed September 2022.
8. California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: <https://dtsc.ca.gov/dtscs-cortese-list>. Accessed August 2022.
9. California Department of Transportation. *2017 Traffic Volumes: Route 103-116*. Available at: <https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-103-116>. Accessed August 2022.
10. California Department of Transportation. *California Scenic Highway Mapping System*. Available at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed June 2022.
11. California Energy Commission. *Lighting*. Available at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/online-resource-center/lighting>. Accessed June 2022.
12. California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.
13. City of Petaluma. *2020 Urban Water Management Plan*. June 2021.
14. City of Petaluma. *Airport Safety Zones, Petaluma Municipal Airport*. Available at: <https://cityofpetaluma.org/documents/airport-safety-zones-map/>. Accessed August 2022.
15. City of Petaluma. *City of Petaluma 2015-2023 Housing Element*. Revised November 19, 2018.
16. City of Petaluma. *City of Petaluma General Plan 2025*. Adopted May 19, 2008.
17. City of Petaluma. *City of Petaluma General Plan 2025 Environmental Impact Report*. February 2008.
18. City of Petaluma. *Emergency Evacuations*. Available at: <https://cityofpetaluma.org/emergency-evacuations/>. Accessed August 2022.
19. City of Petaluma. *Fire*. Available at: <https://cityofpetaluma.org/departments/fire/>. Accessed June 2022.
20. City of Petaluma. *Police Divisions*. Available at: <https://cityofpetaluma.org/police-divisions/>. Accessed September 2022.
21. City of Petaluma. *Recycled Water Master Plan*. June 2004.
22. Illingworth & Rodkin, Inc. *Creekwood Residential Development Noise and Vibration Assessment, 270-280 Casa Grande Road, Petaluma, California*. August 15, 2022.

23. Illingworth & Rodkin, Inc. *Creekwood Subdivision Construction Health Risk and Greenhouse Gas Assessment, Petaluma, California*. July 11, 2022.
24. Montrose Environmental Solutions. *Cultural Resources Study: Falcon Point Associates, LLC, Creekwood Housing Development Project*. April 2022.
25. Montrose Environmental Solutions. *Phase I Environmental Site Assessment: Falcon Point Associates, LLC, Creekwood Housing Development Project*. June 2022.
26. PJC & Associates, Inc. *Addendum to Geotechnical Report: Proposed Residential Subdivision, 270 & 280 Casa Grande Road, Petaluma, California, APN: 017-040-008 & 015*. January 6, 2022.
27. PJC & Associates, Inc. *Geotechnical Investigation: Proposed Residential Development, 270 & 280 Casa Grande Road, Petaluma, California, APN: 017-040-008 & 015*. September 21, 2020.
28. Sonoma County Transportation Authority. *Moving Forward 2050: Sonoma County Comprehensive Transportation Plan*. September 2021.
29. U.S. Environmental Protection Agency. *Learn About Asbestos*. Available at: <https://www.epa.gov/asbestos/learn-about-asbestos#find>. Accessed August 2022.

C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

D. DETERMINATION

On the basis of this Initial Study:

- I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the project MAY have a “potentially significant impact” or “potentially significant unless mitigated” 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 project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Greg Powell, Principal Planner
Printed Name

Date

City of Petaluma
For

E. BACKGROUND AND INTRODUCTION

This Initial Study (IS) identifies and analyzes the potential environmental impacts of the project. The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines.

The City of Petaluma adopted the City of Petaluma General Plan 2025 and certified an associated Environmental Impact Report (EIR) on May 19, 2008.^{1,2} The General Plan EIR was prepared as a program-level EIR, pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations [CCR], Sections 15000 et seq.).

Pursuant to Section 15152 of the CEQA Guidelines, a project that is consistent with the General Plan and zoning designations of the City may tier from the analysis contained in the General Plan EIR, incorporating by reference the general discussions from the broader EIR. The project would be consistent with the current Medium Density Residential General Plan land use designation for the project site and the R4 zoning district. Therefore, in accordance with Section 15152 of the CEQA Guidelines, the analysis within this IS may tier off the analysis previously prepared in the General Plan EIR, which can be accessed through the City of Petaluma website at <https://cityofpetaluma.org/general-plan/>. The analysis herein is also based upon project-specific technical studies and information. Analysis from both the General Plan EIR and the project-specific technical studies are incorporated by reference in this IS.

F. PROJECT DESCRIPTION

The following section provides a comprehensive description of the project in accordance with CEQA Guidelines.

Project Location, Setting, and Surrounding Land Uses

The project site consists of two parcels totaling 5.2 acres that abut the eastern boundary of Casa Grande Road in the City of Petaluma (see Figure 1 and Figure 2). The parcels are identified by the following addresses and Assessor's Parcel Numbers (APN): 270 Casa Grande Road (APN 017-040-051) and 280 Casa Grande Road (APN 017-040-016). The 280 Casa Grande Road (APN 017-040-016) parcel contains an existing residence and undeveloped land covered in grasses. The 270 Casa Grande Road (APN 017-040-051) parcel contains an existing residence, several associated outbuildings, a landscaped backyard, and a small orchard in the northeast corner of the project site, within a depressed area, near the Creek. The Creek and its associated vegetation forms the eastern boundary of the project site. The Creek is an ephemeral creek that flows in a north-south direction and is tributary to the Petaluma River to the south, which then flows into the San Pablo Bay. The remaining portions of the 270 Casa Grande Road parcel are generally characterized by grasses that are routinely mowed or grazed to reduce fire hazards. Grazing of the project site (i.e., both parcels) is conducted by several sheep owned and cared for by the current property owner of 270 Casa Grande Road.

Currently, FEMA designates the majority of the project site as being within Zone AE, defined by FEMA as an area within the 100-year floodplain. Base flood elevations range from 43 to 47 feet above mean sea level. As discussed further below, the project applicant is in the process of requesting a CLOMR from FEMA to revise the limits of the 100-year floodplain based on site-specific floodplain modeling.

¹ City of Petaluma. *City of Petaluma General Plan 2025*. Adopted May 19, 2008.

² City of Petaluma. *City of Petaluma General Plan 2025 Environmental Impact Report*. February 2008.

Figure 1
Regional Vicinity Map

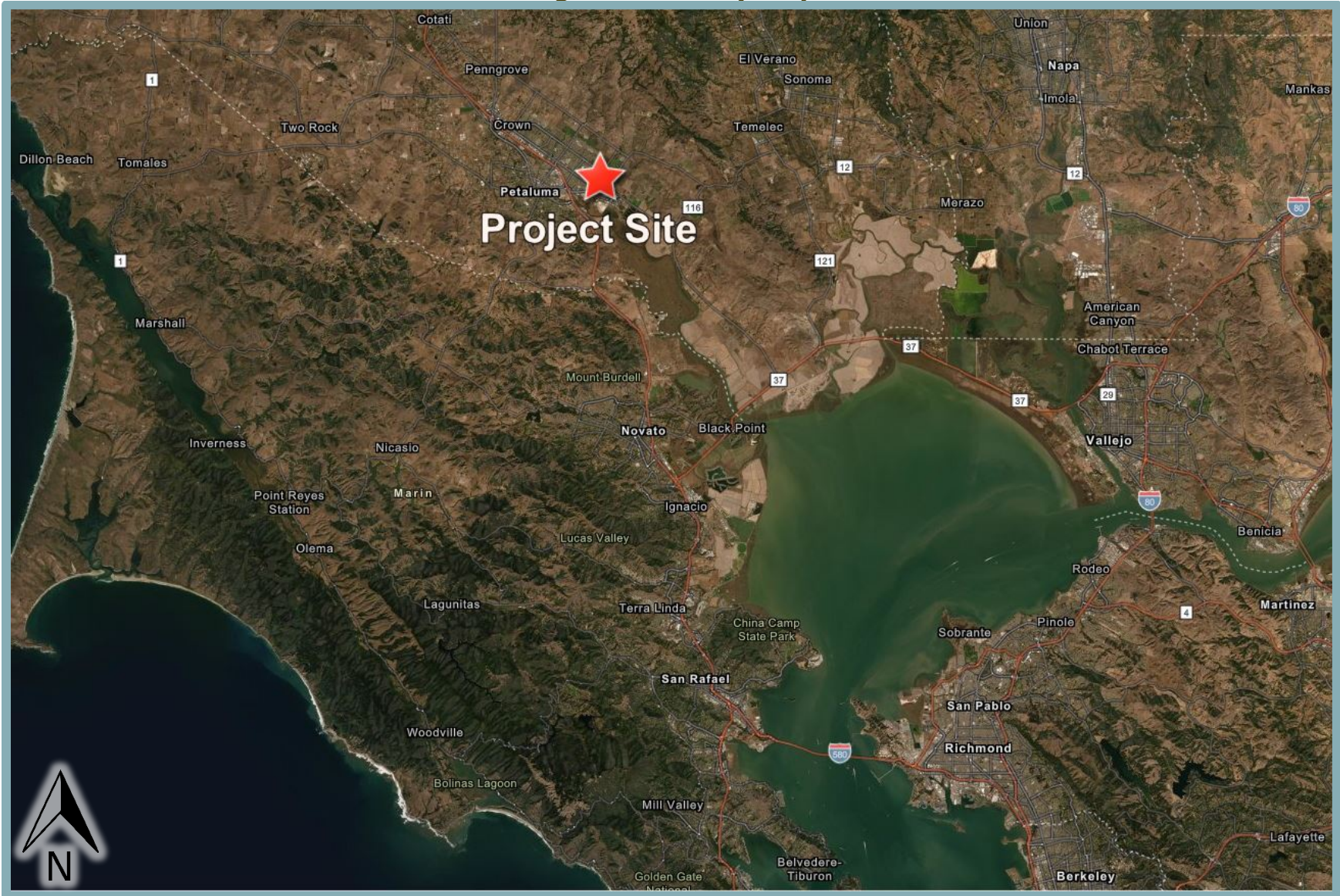


Figure 2
Project Site Boundaries



In support of the CLOMR, West Consultants, Inc., the hydrology consultant for the project, is conducting new mapping of project site elevations and hydraulic modeling, which preliminarily demonstrates that the site is elevated above the 100-year floodplain and would not be vulnerable to potential flood hazards associated with Zone AE.

The project site is bound to the west by Casa Grande Road and to the east by the Creek and its associated riparian corridor. The project site's northern boundary abuts the Casa Grande Senior Apartments. A single-family residence located at 500 Casa Grande Road is located further to the north and abuts the Casa Grande Senior Apartments' northern property line. A single-family residential neighborhood is located to the east, across from the Creek, with access from Spyglass Road. A walking path is located on the west side of Spyglass Road, allowing north-south access along the Creek. Further east from the single-family residences is a multifamily neighborhood, to which Lakeville Circle provides access. The project site's southern boundary abuts the Casa Grande Subdivision, which is currently under construction and will consist of 36 single-family residential units. An existing single-family residential neighborhood is located further to the south and abuts the southern property line of the Casa Grande Subdivision site. Casa Grande High School and Crinella Park are located to the west, across Casa Grande Road, from the project site.

Existing Land Use and Zoning Designations

The City of Petaluma General Plan designates the project site as Medium Density Residential, and the site is zoned R4. Pursuant to the City's General Plan, the Medium Density Residential designation provides for a variety of dwelling types, including single-family and multifamily housing, and allows for a density ranging from 8.1 to 18.0 dwelling units per acre (du/ac). Single-family and multifamily residences are both permitted uses within the R4 zone. Table 1 describes the land use and zoning designations of the parcels surrounding the project site.

Parcel Location	Land Use	Zoning
North of the Project Site	High Density Residential	Planned Unit District
East of the Project Site	Open Space	Open Space Park
South of the Project Site	Medium Density Residential	Residential 4
West of the Project Site	Education	Planned Unit District

Project Components

The project would include demolition of the on-site residence at 280 Casa Grande Road, retention of the existing residence at 270 Casa Grande Road, development of 62 dwelling units, construction of various on-site road and utility improvements, landscaping, and a new off-site public multi-use pathway, with a bridge connection over the Creek. The project would require City approval of a Vesting Tentative Parcel Map, Site Plan and Architectural Review, and a Tree Removal Permit. In addition, the project would require FEMA approval of a CLOMR, as well as other approvals from responsible and trustee agencies, including but not necessarily limited to, CDFW approval of a 1600 Lake and Streambed Alteration Agreement and RWQCB approval of a NPDES Construction General Permit and NPDES Phase II MS4 General Permit. The project components, along with all required entitlements and approvals, are described in the following sections.

Vesting Tentative Parcel Map

The project would include a Vesting Tentative Parcel Map, in accordance with Petaluma Municipal Code (PMC) Chapter 20.18, to establish a single-lot parcel (Parcel 1) to allow the sale of the

proposed dwelling units as condominiums and a 0.637-acre Remainder that would not be a part of the proposed residential community. The purpose of the Remainder is to allow the property owner of 270 Casa Grande Road to retain their residence and continue to live on the property. As shown in Figure 3, following demolition of the other on-site residence in the site’s western portion, the proposed 62 dwelling units would be constructed across three blocks (Blocks 1, 2, and 3). Block 1 units would be arranged in tri-plex configurations with a building height of 33 feet and four inches and designed in accordance with two plan types (see Figure 4). Each plan would consist of three floors, featuring an entryway and covered parking garage on the first floor; kitchen, dining, and living room areas, as well as a deck on the second floor; and either two or three bedrooms on the third floor. Units within Blocks 2 and 3 would primarily be arranged in duet unit configurations with building heights ranging from 23 feet and one inch to 26 feet and one inch and designed in accordance with five plan types. Each plan would consist of two floors and include an entryway, porch, covered parking garage, kitchen, dining area, living room, and powder room on the first floor. Second floors would include three bedrooms, two bathrooms, and a laundry area. A portion of the Block 2 and 3 units would also include a loft area on the second floor, depending on the plan type. Table 2 summarizes the unit layouts within each block.

Table 2 Unit Layout Summary					
Units	Bedrooms	Garage (sf)	Living Area (sf)	Porch/Deck (sf)	Usable Open Space (sf)
Block 1					
24	2-3	470-562	1,312-1,458	63-80	304-811
Blocks 2 and 3 Without Loft					
12	3	231	1,395	94	684-1,132
Blocks 2 and 3, With Loft					
26	3	241	1,660	94	547-1,299

All new dwellings would be located beyond the 50-foot setback that applies to new development when adjacent to a creek (in accordance with Petaluma General Plan Policy 4-P-1, which prohibits development from occurring within 50 feet of any tributary of the Petaluma River). A 488-square-foot (sf) portion of the property, designated as Parcel A on the Vesting Tentative Parcel Map, along the Casa Grande Road frontage, would be dedicated to the City of Petaluma for street right-of-way (ROW).

Access, Circulation, and Parking

Access to the project site would be provided by two new entries from Casa Grande Road, as shown in Figure 5. From the two entries, a new internal looped private street would extend eastward into the project site. The new street would provide access to all proposed units, as well as the existing residence at 270 Casa Grande Road, and be comprised of two 10-foot-wide driving lanes along all segments. In addition, an eight-foot-wide parking lane would be provided along the street’s northern segment to allow for designated on-street parallel parking for various Block 1 units. It should be noted that on-site bicycle lanes are not proposed.

A rolled curb and gutter would be constructed along both sides of the internal street segments that do not include on-street parking. In areas adjacent to on-street parking, a curb and gutter would be constructed, in accordance with Standard 203 of the City of Petaluma Design and Construction Standards.

Figure 3
Vesting Tentative Parcel Map

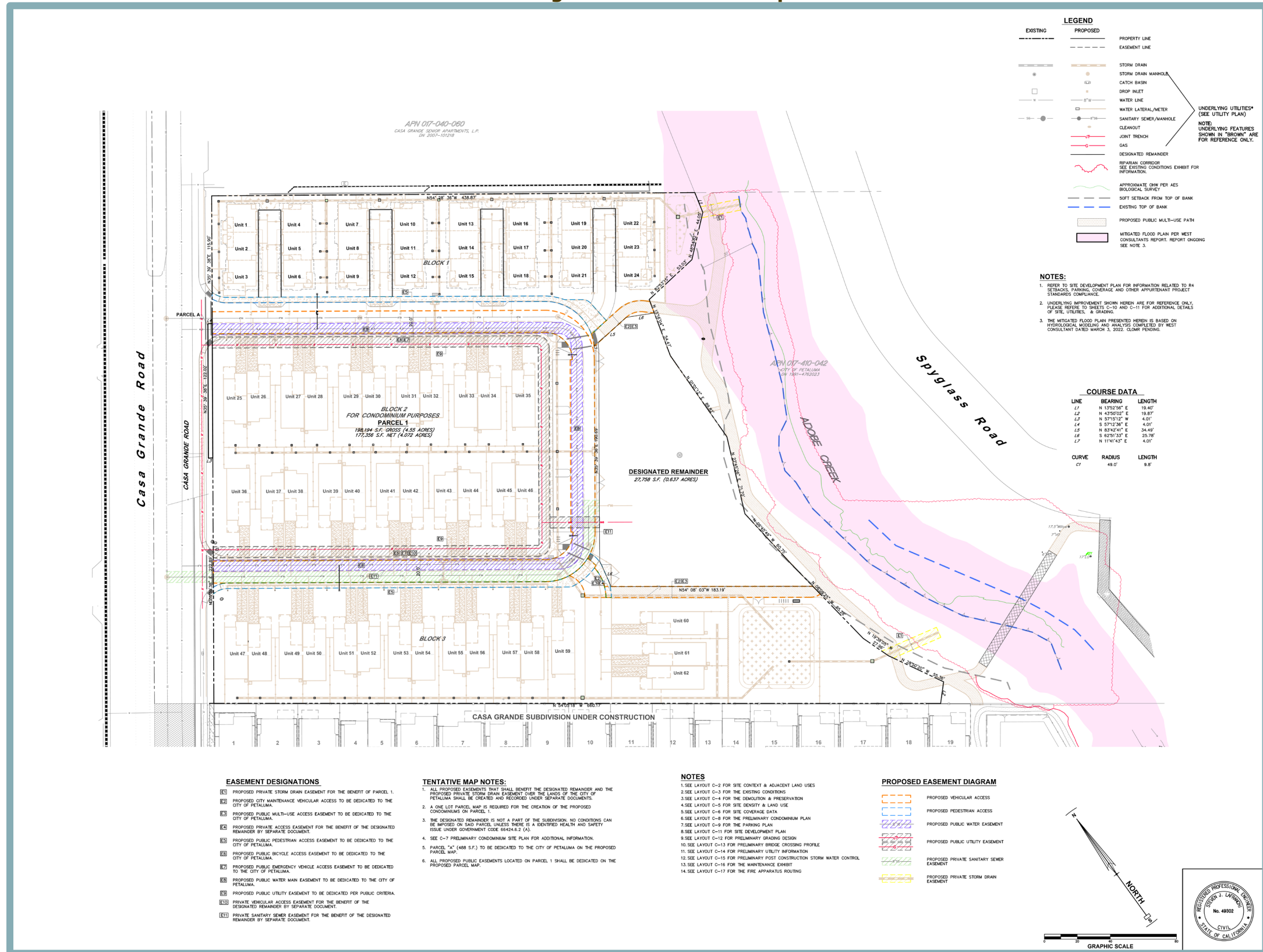


Figure 4
Architectural Site Plan

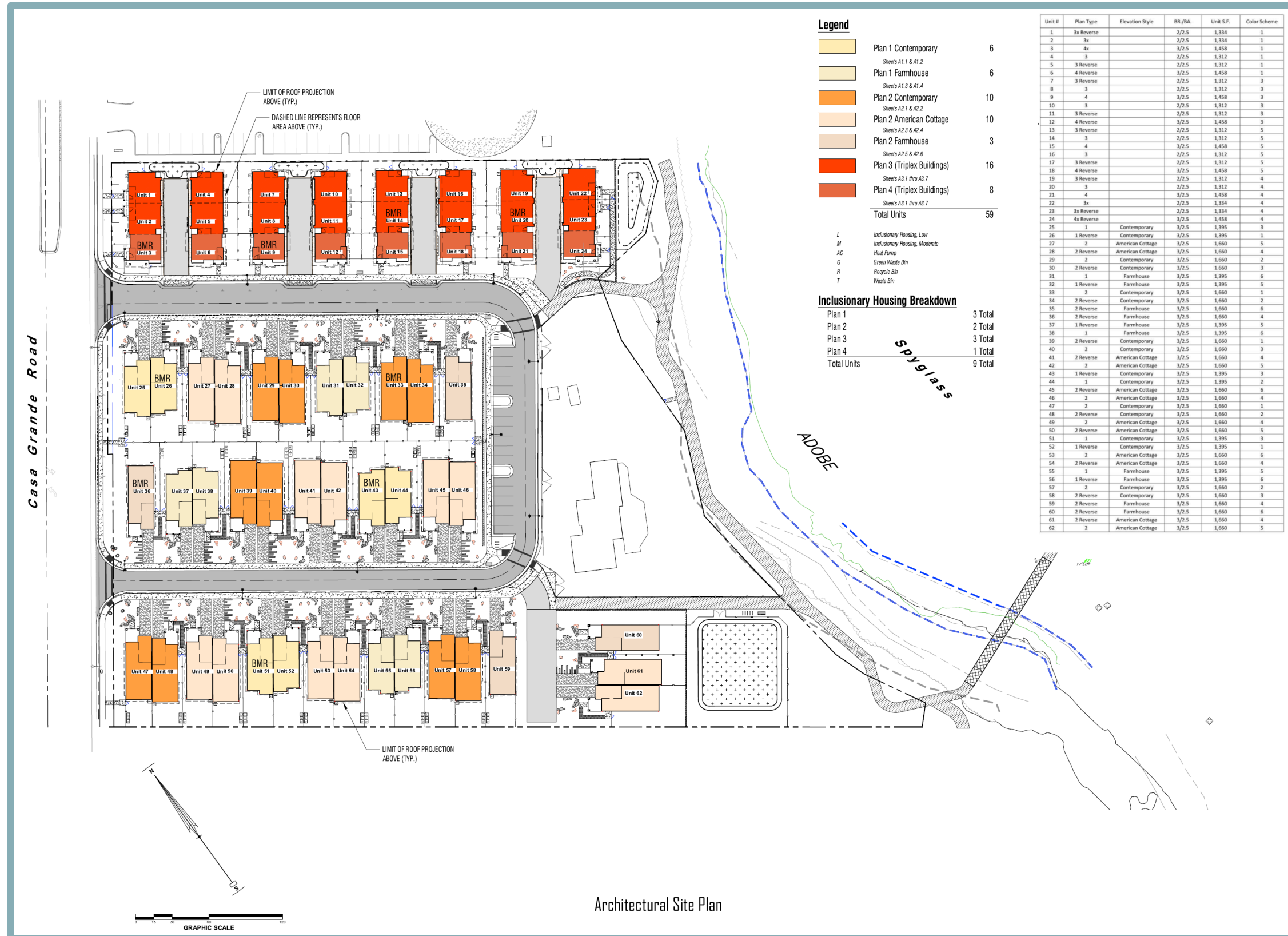
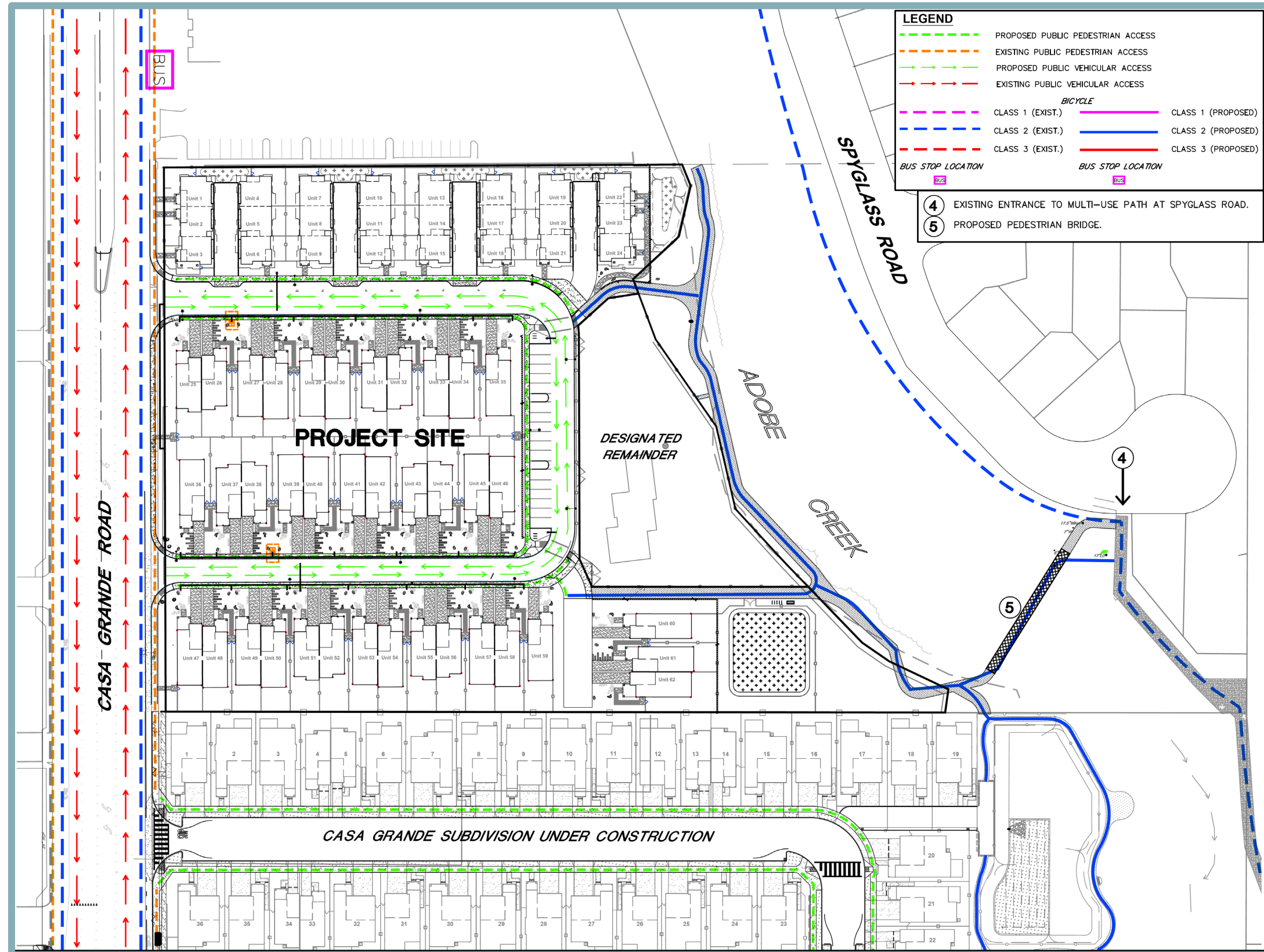


Figure 5
Circulation Plan



In addition, five-foot-wide sidewalks would be constructed along the street in accordance with the applicable City of Petaluma Street Construction Standards, where a pedestrian easement would exist to connect the public sidewalk along Casa Grande Road to the public path along the Creek and the bridge over the Creek. Four-foot-wide sidewalks would be provided along private portions of the street. The portion of the street that fronts the Remainder area would not include a sidewalk.

The project would include 187 total parking spaces (see Figure 6). A total of 86 covered parking spaces would be provided within the proposed garages. A total of 38 standard uncovered parking spaces would be provided on the driveways within Blocks 2 and 3, as well as a total of 38 compact uncovered parking spaces within the permeable areas adjacent to each driveway. A total of 25 on-street parking spaces would be provided along the main access street, east of the Block 2 units. Finally, the project would include space for bicycle parking within each garage, which would consist of mounting hardware for a minimum of two bicycles. In addition, the project includes an off-site public multi-use pathway with a bridge connection over the Creek, which is discussed further below.

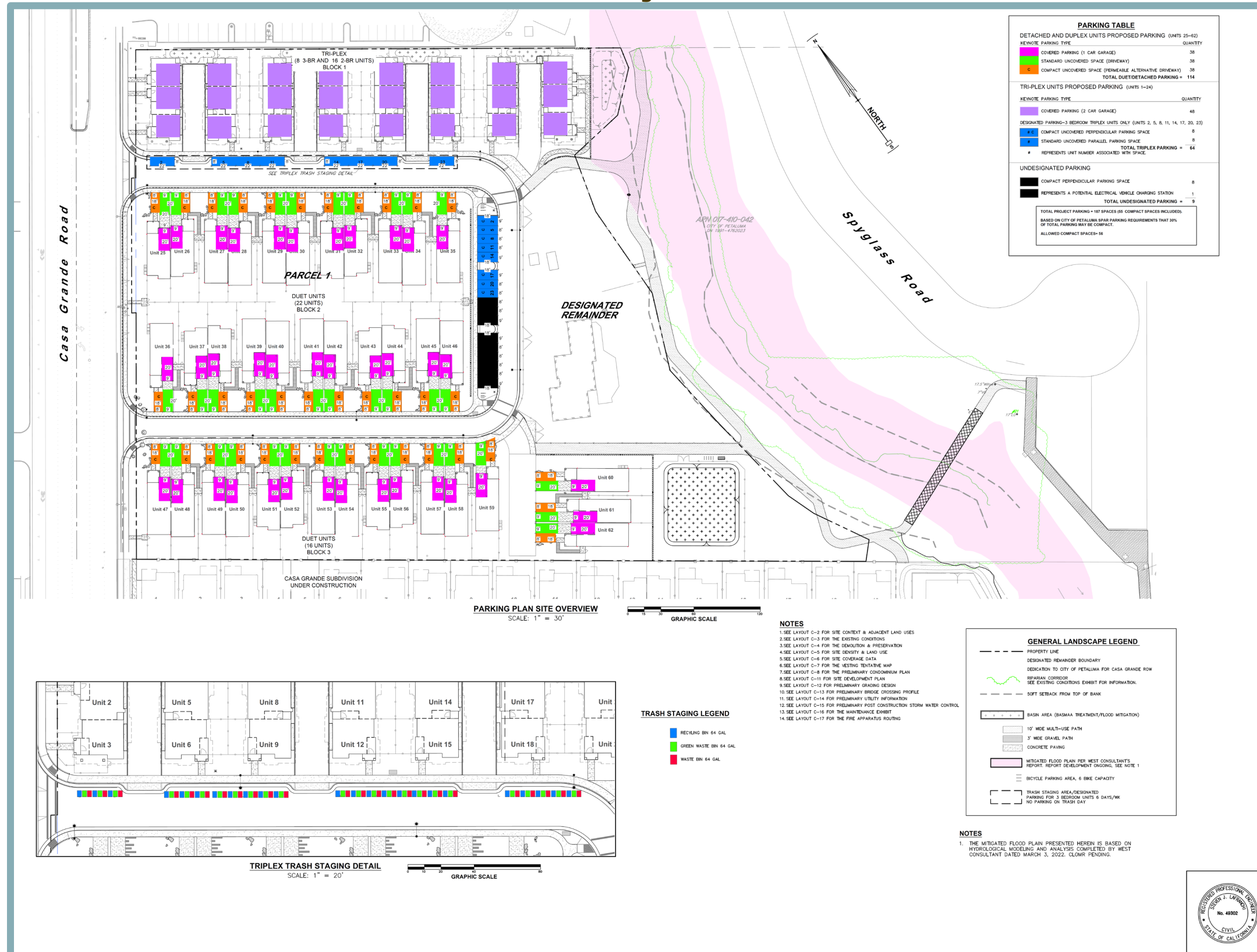
Utilities and Public Services

The project would require the removal of the existing on-site septic system, as well as any private well(s) that could potentially be located within the project site. Water and sewer service would be provided to the new dwellings and existing residence at 270 Casa Grande Road by the City of Petaluma through new connections to the existing eight-inch water and sewer mains in Casa Grande Road (see Figure 7). The City purchases Russian River water from the Sonoma Water, which supplies water to Petaluma and seven other water contractors. From the point of connection, new eight-inch water and sewer lines would be extended into the site within the new internal street. From the new eight-inch water line, new water service laterals would be extended to each unit, including the existing residence at 270 Casa Grande Road. Similarly, all units would connect to the new eight-inch sewer line by way of new sanitary sewer laterals. All new water infrastructure would be designed in accordance with the City's Water System Design Guidelines. All new sewer infrastructure would be designed in accordance with the applicable sections of the City's Sewer System Construction Standards.

The project would also include new on-site stormwater facilities to retain and treat stormwater runoff from the site's proposed impervious surfaces. The project site's stormwater facilities would be dispersed across five drainage management areas (DMAs) (see Figure 8). DMAs 1 through 4 would encompass the Block 1 units and would each contain corresponding Basin Retention Areas (BRAs) 1 through 4. DMA 5 would encompass the new internal street, Blocks 2 and 3 units, and BRA 5. Within DMAs 1 through 4, runoff from impervious surfaces would be directed to grassy areas, where flows would be collected by inlets and conveyed by way of private storm drain lines to each DMA's BRA for retention and treatment. Following retention and treatment, flows would be metered and released to the Creek. In addition, a floodwater detention basin would be constructed immediately east of DMA 4 to accept surface flow from waters overtopping the Creek bank or backing up through the storm drain system. Similarly, within DMA 5, runoff would be directed to inlets installed in each dwelling unit's backyard area and to gutters installed along the new internal street. From the inlets and gutters, flows would be conveyed by way of new private storm drain lines to BRA 5 for retention and treatment. From BRA 5, treated flows would be metered to the Creek. All new storm drain infrastructure would be designed in accordance with the applicable Sonoma Water (formerly Sonoma County Water Agency) standards.

Electrical service would be provided to the project by Pacific Gas and Electric Company (PG&E). The existing aboveground utility lines located along Casa Grande Road adjacent to the project site's western boundary would be undergrounded as part of the project. All new infrastructure would similarly be installed below grade. The project would not use natural gas.

**Figure 6
Parking Plan**



**Figure 7
Preliminary Utility Plan**

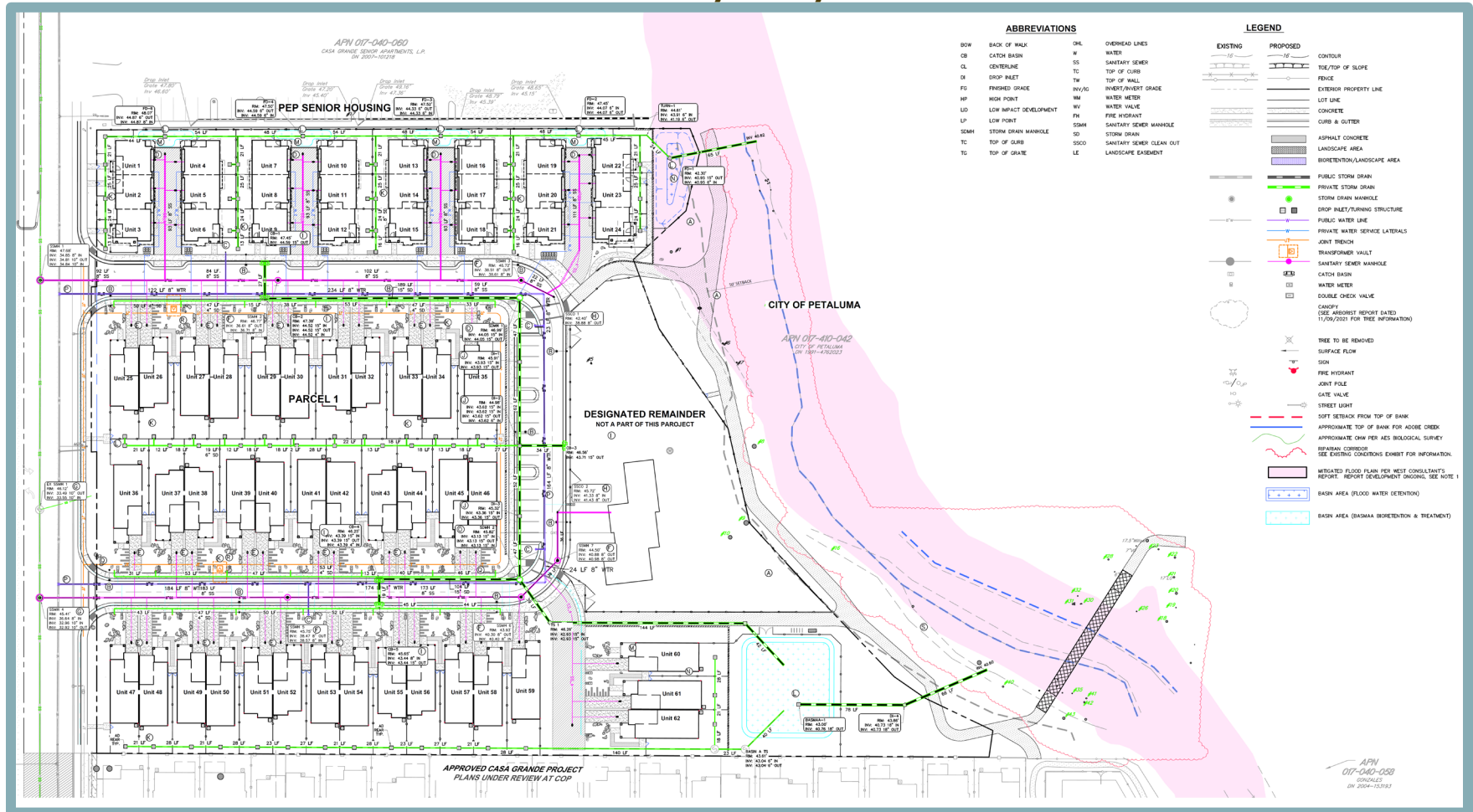
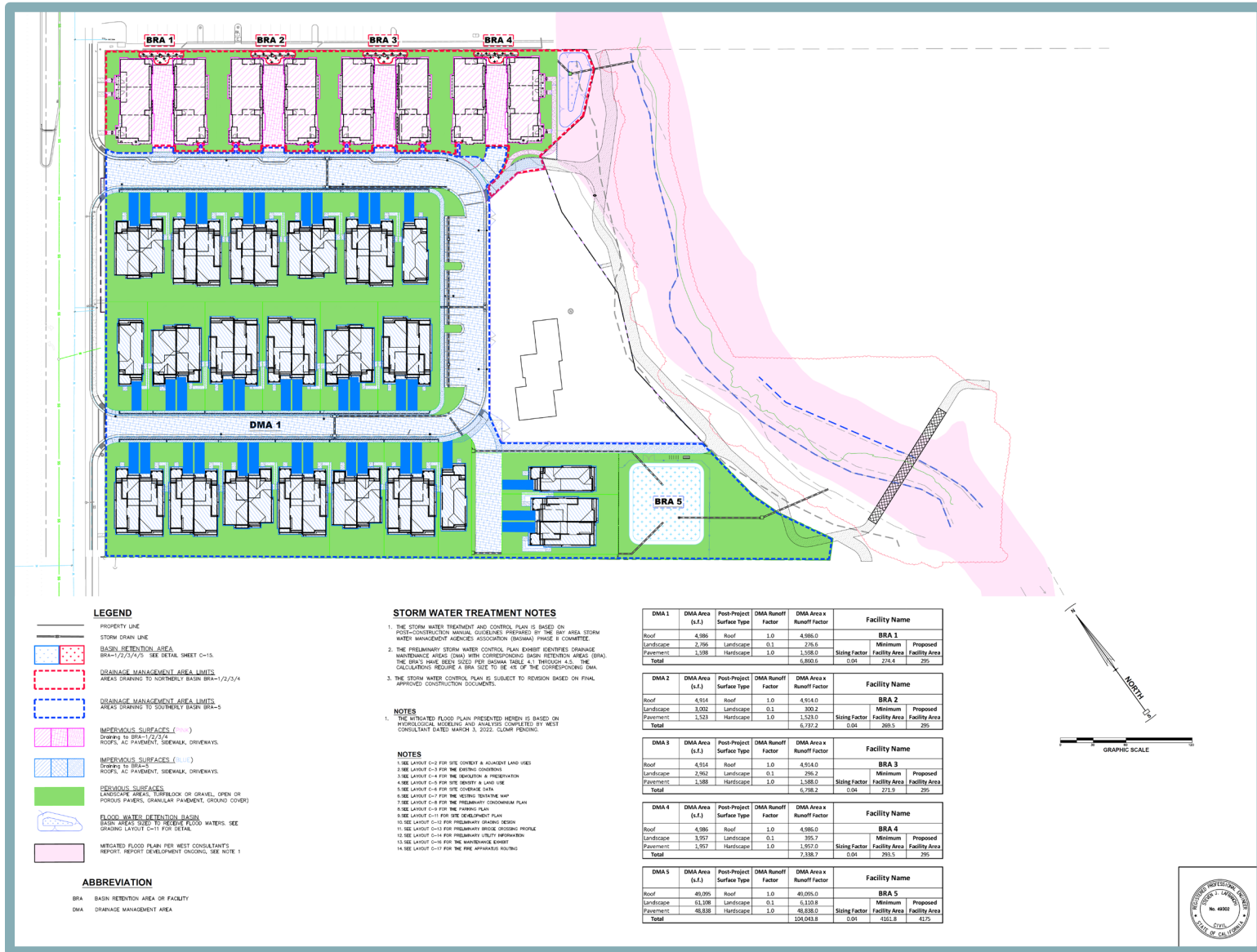


Figure 8
Post-Construction Stormwater Control and Treatment Plan



The City of Petaluma contracts with Recology for recycling, organics, and solid waste services. The project would be served by the Petaluma Police Department (PPD), Petaluma Fire Department (PFD), the Petaluma City Elementary School District (PCESD) (grades K-8), and the Petaluma Joint Union High School District (PJUHSD) (grades 9-12). The PPD is stationed at 969 Petaluma Boulevard North, 2.6 miles west of the project site. The nearest PFD station to the project site is Station 3 at 831 South McDowell Boulevard, 0.8-mile west of the site.

Open Space, Landscaping, and Fencing

Each dwelling unit would include UOS in the form of semi-private or private yard areas. The UOS would range in size from 304 sf to 811 sf for Block 1 units, 684 sf to 1,132 sf for Block 2 units, and 547 sf to 1,299 sf for Block 3 units.

The project would include new landscaping along the project's Casa Grande Road frontage, as well as along front and side yard areas of on-site residential units, the bioretention basin in the site's southern portion, and in open space areas adjacent to the Creek's riparian corridor, the latter of which includes areas within the City-owned parcel that encompasses the Creek (see Figure 9). Newly planted trees adjacent to the Creek would consist of native 24-inch box trees such as coast live oak, valley oak, and California Buckeye. In addition, new trees adjacent to the proposed structures would include 24-inch box trees such as marina arbutus and Chinese pistache, 15-gallon trees such as pink dawn chitalpa and swan hill fruitless olive, and various-sized shrubs, perennials, and grasses. Final species selection would be in accordance with Petaluma Implementing Zoning Ordinance (IZO) Section 14.010.

The project would include various types of fencing throughout the project site (see Figure 10). While the majority of the project frontage along Casa Grande Road would not include fencing, small portions of the frontage west of Block 1 would include segments of 42-inch-tall wood and wire fencing interspersed with segments of eight-foot, double-sided, wood and wire fencing. In addition, the project would construct an eight-foot, double-sided, wood and wire fence along the northern property line, as well as along the eastern and southern boundaries of the Remainder and the eastern boundary of Block 3. The Remainder's western boundary, along the new internal street frontage, would include 42-inch-tall wood and wire fencing. The backyard areas of the proposed units would be separated by six-foot-tall wood fencing.

In addition, the boundaries of the southern bioretention basin and northern detention basin would be lined with three-foot-tall split-rail fencing in areas facing the proposed off-site pathway. All fencing would be designed in accordance with IZO Section 13.020.

Off-Site Improvements

The project includes an off-site public multi-use pathway with a bridge connection over the Creek (see Figure 3 and Figure 11). The multi-use pathway would be 10 feet in width and installed along the project site's eastern boundary, west of the Creek. The pathway would connect to the Casa Grande Subdivision to the south and be stubbed at the northern property line, north of which is located the Casa Grande Senior Apartments. The project's internal pathway system would connect to the multi-use pathway at two locations, generally north and south of the existing residence at 270 Casa Grande Road. Although the project site would be private, it should be noted that the project would dedicate a public pedestrian easement to provide access to the pathway and bridge (note: the pathway and bridge would be privately maintained).

270 and 280 Casa Grande Road Creekwood Housing Development Project
Initial Study

Figure 9
Preliminary Landscape Plan

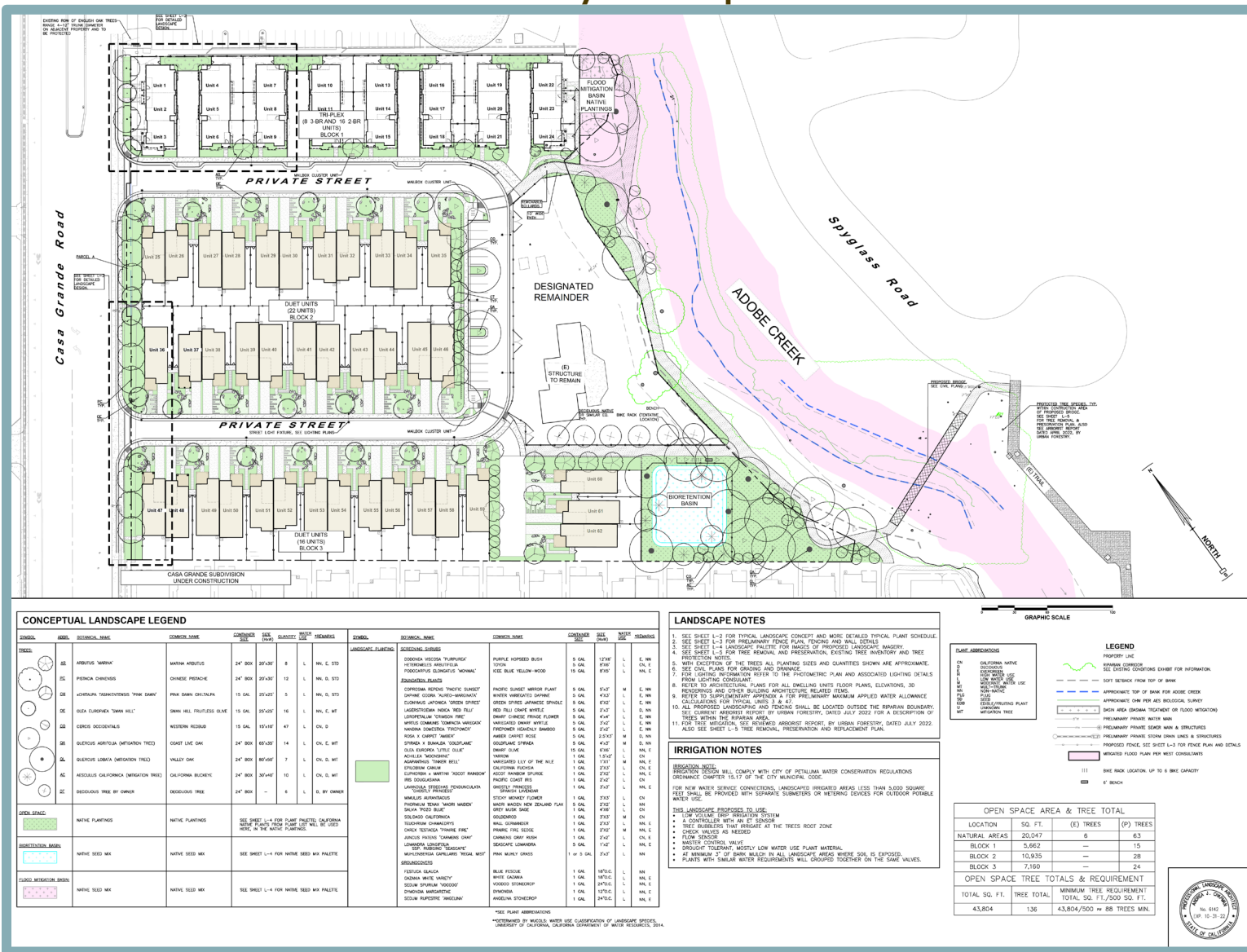


Figure 10
Preliminary Fence Plan

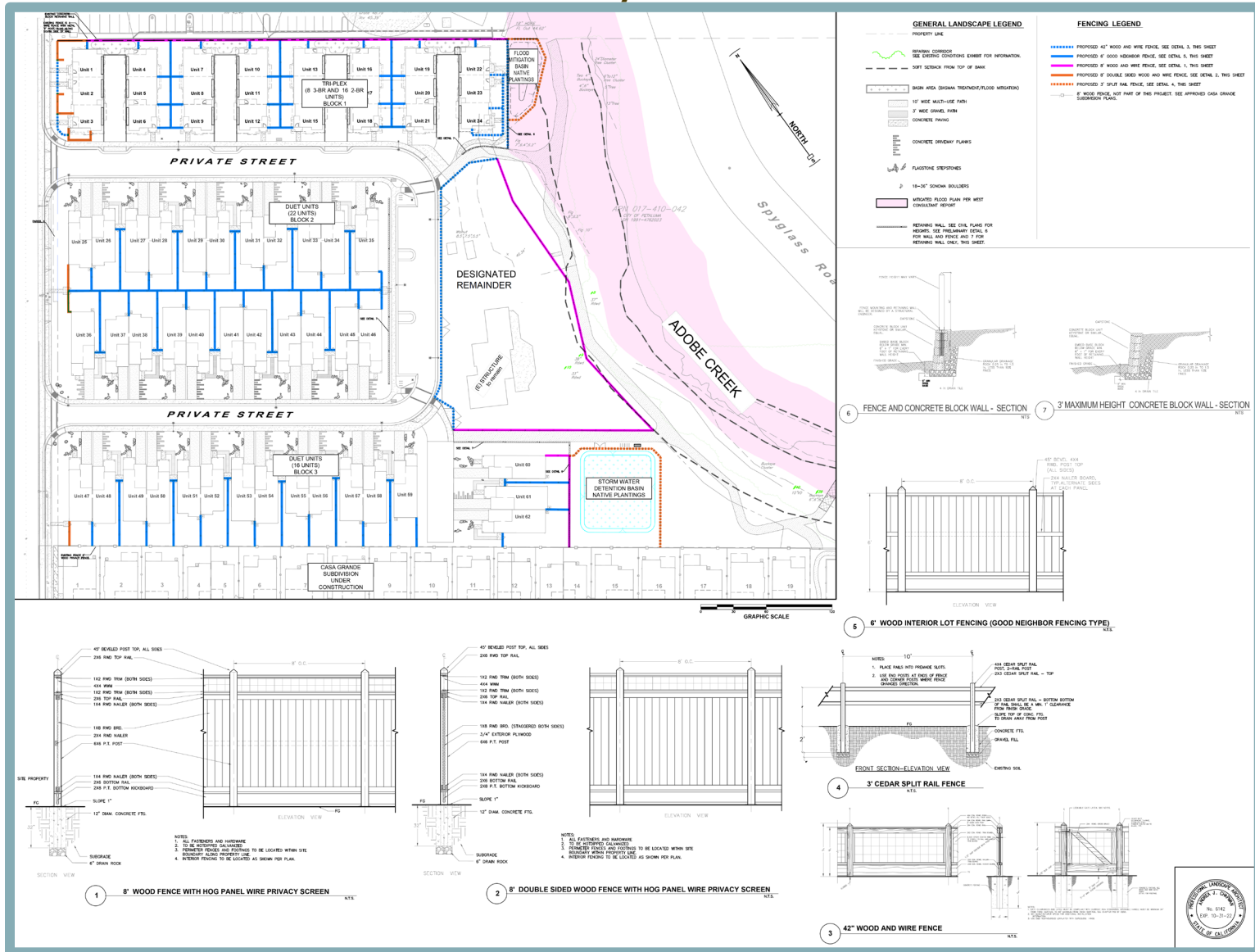
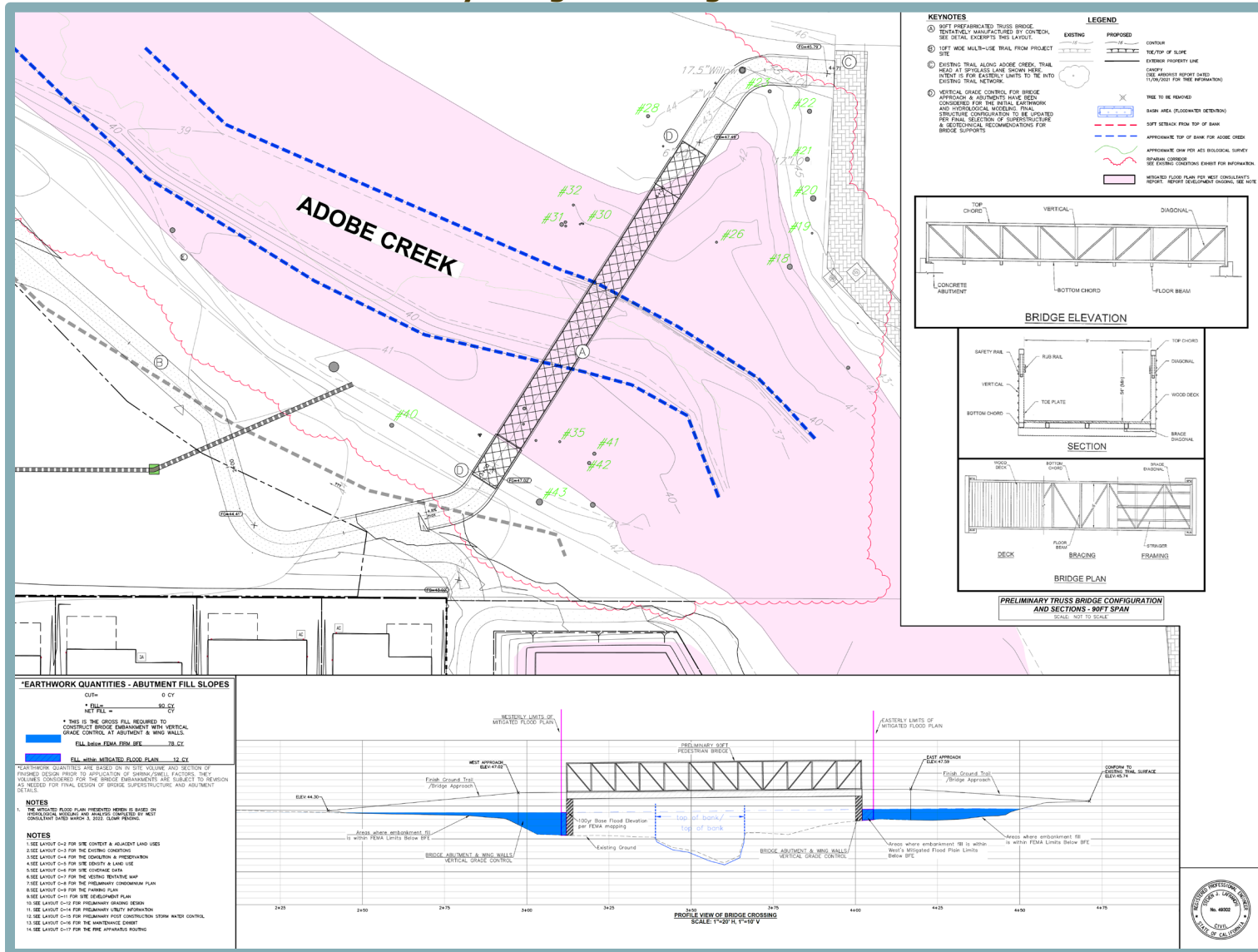


Figure 11
Preliminary Bridge Crossing Plan and Profile



The bridge, located on a City-owned parcel, would connect to the proposed multi-use pathway along the west side of the Creek, as well as the existing path along Spyglass Road, on the east side of the Creek. The bridge would span the Creek and be located atop bridge abutments. The bridge would be 90 feet in length, eight feet in width, and composed of steel framing, as well as wood decking for the walking surface. Safety rails standing a minimum of 4.5 feet in height would line each side of the bridge. The western and eastern approaches, as well as the bridge abutments and deck, would be elevated above the FEMA Flood Insurance Rate Map (FIRM) 100-year floodplain base flood elevation. The project would require 90 cubic yards (CY) of net fill for the abutment fill slopes, including 78 CY placed below the 100-year floodplain base flood elevation.

Inclusionary Housing

In accordance with IZO Section 3.040, the project would reserve at least 15 percent of the proposed 62 dwelling units as Below Market Rate (BMR) units, with half of the BMR units reserved for low-income households and half reserved for moderate-income households. Sale prices for the BMR units would be subject to the limitations associated with Area Median Income (AMI) of Sonoma County. The sale prices for the market rate units would be subject to market conditions at the time of project construction.

Protected Trees

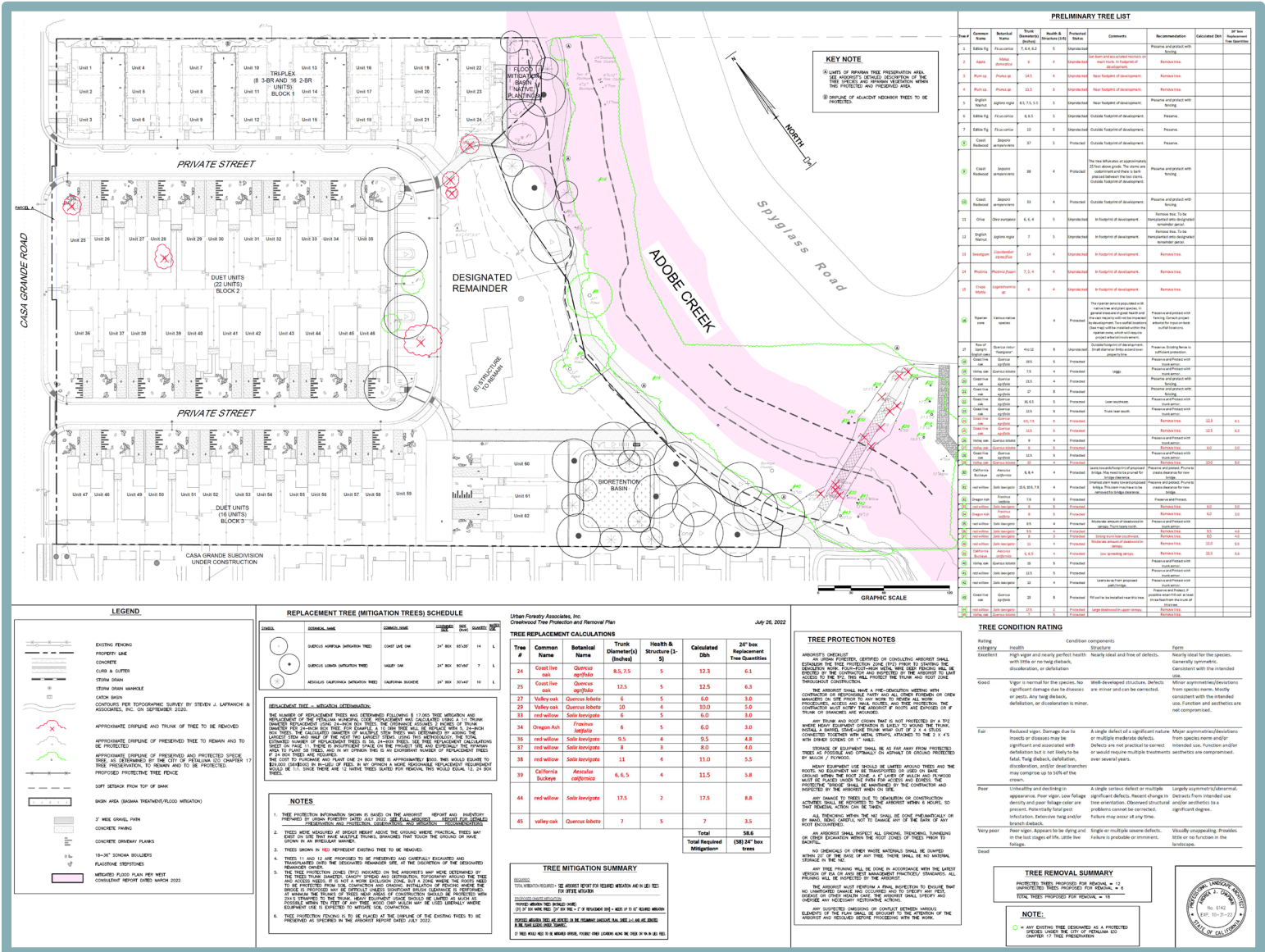
The project would require the removal of 18 trees, including six unprotected trees outside the riparian dripline and 12 trees that are designated as protected by IZO Section 17.040 (see Figure 12). Table 3 provides a summary of all protected trees proposed for removal.

No.	Common Name	Botanical Name	Trunk Diameter (inches)	Health & Structure (0-5) ¹
24	Coast Live Oak	Quercus agrifolia	8.5, 7.5	5
25	Coast Live Oak	Quercus agrifolia	12.5	5
27	Valley Oak	Quercus lobata	6	5
29	Valley Oak	Quercus lobata	10	4
33	Red Willow	Salix laevigata	6	5
34	Oregon Ash	Fraxinus latifolia	6	5
36	Red Willow	Salix laevigata	9.5	4
37	Red Willow	Salix laevigata	8	3
38	Red Willow	Salix laevigata	11	4
39	California Buckeye	Aesculus californica	6, 6, 5	4
44	Red Willow	Salix laevigata	17.5	2
45	Valley Oak	Quercus lobata	7	5

Note: The Health & Structure column includes a rating for condition, based on The Guide for Plant Appraisal, 10th Edition. The numeric scale ranges from 5 (being the highest) to 0 (the worst condition, dead). Rating 2 (Poor) indicates the tree has a single or multiple serious structural defects and is unhealthy and declining in appearance. Rating 3 (Fair) indicates the tree has a single serious structural defect or multiple moderate defects and reduced vigor. Rating 4 (Good) indicates the tree has minor structural defects that can be corrected and normal vigor. Rating 5 (Excellent) indicates the tree is free of structural defects and has nearly perfect health.

Three of the unprotected trees are located within the footprint of the proposed Block 2 units and internal street. The remaining three unprotected trees are located near the proposed location of Unit 24. The 12 protected trees that would require removal are generally located within the alignment of the proposed off-site bridge, within the City-owned parcel associated with the Creek.

Figure 12
Tree Removal and Preservation Plan



In addition to the above, two unprotected trees currently located where the perpendicular parking is proposed would be relocated on-site within the Remainder area. Protected trees located in proximity to the off-site bridge and not proposed for removal could be subject to pruning, which would be determined at the time of construction by the project arborist.

Additional trees in close proximity to the bridge may require pruning during construction; further tree impact analysis will be included in the EIR. In accordance with IZO Section 17.060, the removal, cutting down, or otherwise destruction of a protected tree requires a Tree Removal Permit issued by the City of Petaluma Community Development Department. All other trees in on-site areas and along the riparian corridor would be retained and protected in place during construction.

The proposed project would include the planting of 130 new trees on-site, which includes those planted for the purposes of mitigating project impacts to protected trees.

Site Plan and Architectural Review

Pursuant to IZO Section 24.050, Site Plan and Architectural Review is required for proposed uses of more than one dwelling unit per lot, except for accessory dwellings. The purpose of the review is to ensure compliance with the development standards set forth by the IZO and to promote the orderly and harmonious development of the City. The project would consist of 62 units on a single lot. As such, the project is subject to Site Plan and Architectural Review.

Conditional Letter of Map Revision

As discussed above, the project site is within Special Flood Hazard Area (SFHA) Zone AE. Zone AE is defined by FEMA as an area within the 100-year floodplain; however, the current Zone AE designation is based on outdated modeling. The project applicant is in the process of requesting a CLOMR from FEMA.

As part of obtaining a CLOMR, West Consultants, Inc., the hydrology consultant for the project, is conducting precise mapping of project site elevations to determine the current extent of the 100-year floodplain and hydraulic modeling to demonstrate limits of the 100-year floodplain. Subsequent to the CLOMR, FEMA would need to issue a LOMR officially modifying the effective FIRM to modify the floodplain limits as warranted.

Requested Entitlements

The project would require City approval of the following:

- Vesting Tentative Parcel Map;
- Site Plan and Architectural Review; and
- Tree Removal Permit.

The project would require the following approvals/permits from other responsible agencies:

- Conditional Letter of Map Revision (FEMA);
- Section 401 Water Quality Certification (RWQCB – San Francisco Bay Region);
- Section 1600 Lake and Streambed Alteration Agreement (CDFW-Region 3);
- NPDES Construction General Permit (RWQCB – San Francisco Bay Region); and
- NPDES Phase II MS4 General Permit (RWQCB – San Francisco Bay Region).

G. ENVIRONMENTAL CHECKLIST

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

I. AESTHETICS. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project’s impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. The Petaluma General Plan notes that the City has a picturesque setting along the Petaluma River, with a backdrop of hills to the west and south, and vistas of Sonoma Mountain to the east; however, the General Plan does not officially designate scenic vistas within the City limits. Figure 3.11-1 of the General Plan EIR uses viewpoints from the three following locations to determine potential adverse effects upon scenic resources: the East Washington Street overpass, McNear Peninsula, and Rocky Memorial Dog Park. The project site is not located within the immediate vicinity of the East Washington Street overpass or McNear Peninsula. Although the site is located one mile north of Rocky Memorial Dog Park, due to the intervening development between the two locations and the flat nature of the site, development of the proposed project would not block views of the hills in the surrounding environs.

In addition, the project site has been subjected to previous disturbance associated with the site’s existing residences, associated outbuildings, driveways, and grasses that are routinely mowed or grazed. The site does not contain mountain ranges or ridgelines. While the Creek and its associated vegetation form the eastern boundary of the project site, in accordance with Petaluma General Plan Policy 4-P-1, which prohibits development from occurring within 50 feet of any tributary of the Petaluma River, the proposed dwelling units would be located beyond the 50-foot setback that applies to new development when adjacent to a creek. Therefore, development of the project would not have a substantial adverse effect on the Creek and its associated vegetation.

Based on the above information, because established scenic vistas are not located on or adjacent to the project site, the project would not have a substantial adverse effect on a scenic vista. Therefore, the project would result in a **less-than-significant** impact.

b. According to the California Department of Transportation (Caltrans) Scenic Highway Mapping System, the nearest officially designated State scenic highway to the project site

is a portion of State Route (SR) 12 located 8.3 miles to the northwest of the City.³ Given the distance between the two locations, the project site is not viewable from SR 12. Therefore, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway and **no impact** would occur.

- c. The project site is located within the City limits, bound by Casa Grande Road to the west, and is adjacent to the Casa Grande Senior Apartments to the north and the under-construction Casa Grande Subdivision to the south. In addition, a single-family residential neighborhood is located to the east, across from the Creek, and Casa Grande High School and Crinella Park are located to the west, across Casa Grande Road. Therefore, the project site is within an urbanized area, and the relevant threshold is whether the project would conflict with applicable zoning and other regulations governing scenic quality.

The project would be consistent with the uses allowed in the Medium Density Residential land use designation and the R4 zoning district's permitted uses. Pursuant to the City's General Plan, the Medium Density Residential designation provides for a variety of dwelling types, including single-family and multifamily housing, and allows for a density ranging from 8.1 to 18.0 du/ac. The project would result in a density of 15.22 du/ac. In addition, single-family and multifamily residences are both permitted uses within the R4 zone. The proposed dwelling units would be required to be designed in accordance with the R4 Zone Development Standards set forth in Table 4.9 of IZO Section 4.040, including the City's standards for lot size, setbacks, and height limits. The project would include new landscaping along the project's Casa Grande Road frontage, as well as along front and side yard areas of on-site residential units, the bioretention basin in the site's southern portion, and in open space areas adjacent to the Creek's riparian corridor. Newly planted trees would be comprised of 24-inch box trees such as marina arbutus and Chinese pistache, 15-gallon trees such as pink dawn chitalpa and swan hill fruitless olive, and various-sized shrubs, perennials, and grasses. Final species selection would be in accordance with IZO Section 14.010. In addition, the project would include the installation of various types of fencing throughout the project site (see Figure 10), including segments of 42-inch-tall wood and wire fencing interspersed with segments of eight-foot, double-sided, wood and wire fencing along small portions of the Casa Grande Road frontage west of Block 1; an eight-foot, double-sided, wood and wire fence along the northern property line of the site, as well as the eastern and southern boundaries of the Remainder; and 42-inch-tall wood and wire fencing along the Remainder's western boundary.

Finally, pursuant to IZO Section 24.050, Site Plan and Architectural Review is required for proposed uses of more than one dwelling unit per lot, except for accessory dwellings. The project would consist of 62 units on a single lot as condominiums, and would, therefore, be subject to Site Plan and Architectural Review, which would ensure compliance with the development standards set forth by the IZO.

Based on the above, the project would be required to comply with all applicable regulations and standards set forth by the Petaluma IZO and would be subject to Site Plan and Architectural Review, which would ensure the project would not conflict with applicable

³ California Department of Transportation. *California Scenic Highway Mapping System*. Available at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed June 2022.

zoning and other regulations governing scenic quality. Thus, the project would result in a **less-than-significant** impact.

- d. The project site is currently developed with two residences and includes limited sources of light and glare associated with the residences. In addition, the project site is bound by Casa Grande Road, which features existing sources of light and glare, including vehicle headlights, light reflecting off vehicle windshields, and street lights. Finally, the project site is within an urbanized setting, which contains existing sources of light and glare associated with the Casa Grande Senior Apartments to the north, the single-family residential neighborhood to the east, and Casa Grande High School and Crinella Park to the west.

The proposed dwelling units would introduce new sources of light and glare associated with residential uses, including light reflecting off vehicle and dwelling unit windows, vehicle headlights, exterior light fixtures, and interior light spilling through windows. IZO Section 21.040(D) establishes that direct glare and indirect glare from buildings in any zoning district must not exceed three footcandles of illuminance. A footcandle is equal to one lumen per sf. To demonstrate compliance with IZO Section 21.040(D), a Lighting Analysis summarizing the anticipated horizontal illuminance of the project was prepared by Associated Lighting Representatives, Inc.⁴ Horizontal illuminance describes the amount of light landing on a horizontal surface, such as the ground. Pursuant to the Lighting Analysis, the proposed garage alleys would result in an average horizontal illuminance of 0.8 footcandles and a maximum horizontal illuminance of 2.7 footcandles. The proposed private street would result in an average horizontal illuminance of 0.6 footcandles and a maximum horizontal illuminance of 1.8 footcandles. Based on the Lighting Analysis, the project would be consistent with the requirements set forth by IZO Section 21.040(D).

In addition, any streetlights included as part of the project would be designed to be consistent with the standards set forth in the City's Street Light Design and Construction Standards, which would ensure streetlights installed as part of the project do not exceed the maximum illuminance allowed by the City. Furthermore, interior and exterior lighting associated with the proposed dwelling units would be designed in accordance with the requirements set forth by the California Energy Code (Title 24, Part 6).⁵ Finally, pursuant to IZO Section 24.050, the project would be subject to Site Plan and Architectural Review, which would ensure the project is consistent with the applicable development standards set forth by the IZO for the R4 zoning district and does not include new sources of light and glare at levels prohibited by the City.

Based on the above, through compliance with all applicable regulations, and standards set forth by the Petaluma IZO and the California Energy Code, the project would not introduce new sources of substantial light or glare to the project site that would adversely affect day or nighttime views in the area, and a **less-than-significant** impact would occur.

⁴ Associated Lighting Representatives, Inc. *Lighting Analysis*. March 1, 2022.

⁵ California Energy Commission. *Lighting*. Available at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/online-resource-center/lighting>. Accessed June 2022.

II. AGRICULTURE AND FORESTRY RESOURCES.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a,e. Pursuant to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), the project site is designated entirely as “Urban and Built-up Land.”⁶ The DOC defines Urban and Built-up Land as land that is used for “developed purposes,” including, but not limited to, residential, industrial, commercial, and public administration development. Therefore, the project site does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and development of the project would not result in the conversion of Farmland to non-agricultural use. It should be noted that the project site contains fruit trees and a garden associated with the 270 Casa Grande Road residence; however, the number of fruit trees on-site are relatively few in comparison to a commercial orchard and do not qualify the 270 Casa Grande Road residential property as Farmland.

Based on the above, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or 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. Thus, a **less-than-significant** impact would occur.

b. The project site is currently zoned R4, which allows for single-family and multifamily residential development as part of the zoning district’s permitted uses. In addition, the site is not under a Williamson Act contract. Therefore, buildout of the site with the project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and **no impact** would occur.

c,d. The project site is not considered forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), and is not timberland zoned Timberland

⁶ California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed June 2022.

Production (as defined by Government Code Section 51104[g]). Therefore, the project would have ***no impact*** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

III. AIR QUALITY.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a,b. The City of Petaluma is located within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter (PM_{2.5}), and State respirable particulate matter 10 microns in diameter (PM₁₀) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour PM_{2.5} federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM_{2.5} AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation. The USEPA has not yet approved a request for redesignation of the SFBAAB; therefore, the SFBAAB remains in nonattainment for 24-hour PM_{2.5}.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001, and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001, for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM₁₀ standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAQMD’s current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as thresholds of significance, have been developed with the intent to ensure

continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD’s established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM₁₀ and PM_{2.5}, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 4. By exceeding the BAAQMD’s mass emission thresholds for ROG, NO_x, PM₁₀, or PM_{2.5}, a project would be considered to conflict with or obstruct implementation of the BAAQMD’s air quality planning efforts.

Table 4 BAAQMD Thresholds of Significance			
Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀ (exhaust)	82	82	15
PM _{2.5} (exhaust)	54	54	10

Source: BAAQMD, CEQA Guidelines, May 2017.

Emissions of particulate matter can be split into two categories: fugitive emissions and exhaust emissions. The BAAQMD thresholds of significance for exhaust PM emissions are presented in Table 4. The BAAQMD does not maintain quantitative thresholds for fugitive emissions of PM₁₀ or PM_{2.5}; rather, BAAQMD requires all projects within the district’s jurisdiction to implement Basic Construction Mitigation Measures (BCMMS) related to dust suppression.

The project’s construction and operational emissions were quantified as part of a Construction Health Risk and Greenhouse Gas Assessment prepared for the project by Illingworth & Rodkin, Inc. (see Appendix A of this IS).⁷ The project’s emissions were modeled using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0 for on-site construction activity, as well as operational air emissions associated with the project at full buildout. In addition, the CARB Emission FACTors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, including worker travel, vendor trucks, and haul trucks, as well as to update the CalEEMod default vehicle emission factors and fleet mix during project operation.

CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, compliance with the California Building Standards Code (CBSC), etc. Where project-specific information is available, such information should be applied in the model. Accordingly, the project’s modeling assumed the following project and/or site-specific information:

⁷ Illingworth & Rodkin, Inc. *Creekwood Subdivision Construction Health Risk and Greenhouse Gas Assessment, Petaluma, California*. July 11, 2022.

- Construction would commence in January of 2023 and occur over an approximately 19-month period;
- Approximately 2,200 sf of building material would be removed during demolition;
- Approximately 86,500 sf of concrete would be required as part of building construction;
- Approximately 32,670 sf of asphalt would be required as part of paving for the project;
- Hearths/fireplaces would not be included in the proposed residences;
- Consistent with PMC Chapter 17.09, the proposed units would not include natural gas infrastructure; and
- The project would comply with all applicable provisions of the 2019 CBSC, including meeting 100 percent of electricity demand through on-site renewable energy generation.

Additionally, CalEEMod 2020.4.0 is based on the older CARB EMFAC2017 motor vehicle emission factor model, which has been superseded by EMFAC2021. Therefore, the construction traffic information was combined with EMFAC2021 motor vehicle emissions factors. For more details on the construction traffic data used for EMFAC2021 model runs, see Table 3 of the Construction Health Risk and Greenhouse Gas Assessment. The project’s estimated emissions associated with construction and operation are provided below. All CalEEMod and EMFAC2021 results are included in Appendix A to this IS.

Construction Emissions

According to the CalEEMod and EMFAC2021 results, the project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 5.

Table 5				
Unmitigated Maximum Construction Emissions				
Year	ROG	NOx	PM₁₀[*]	PM_{2.5}[*]
Construction Emissions Per Year (Tons)				
2023	0.13	1.20	0.06	0.05
2024	0.66	0.35	0.02	0.01
Average Daily Construction Emissions Per Year (lbs/day)				
2023 (261 workdays)	0.98	9.19	0.43	0.38
2024 (139 workdays)	9.46	5.10	0.26	0.21
BAAQMD Threshold (lbs/day)	54	54	82	54
Exceeds Threshold?	NO	NO	NO	NO
* Denotes emissions from exhaust only. BAAQMD has not yet adopted PM thresholds for fugitive emissions.				
<i>Source: Illingworth & Rodkin, Inc., 2022.</i>				

As shown in the table, the construction of the project would generate criteria pollutant emissions below all applicable thresholds of significance. Nevertheless, all projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD’s BCMMS, which would be required by the City as conditions of approval:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or 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.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure CCR Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. 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.

The project’s required implementation of the BAAQMD’s BCMMs listed above for the project’s construction activities would help to minimize construction-related emissions. Overall, because construction of the project would not exceed any applicable thresholds of significance, project construction would result in a less-than-significant impact.

Operational Emissions

According to the CalEEMod and EMFAC2021 results, the project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 6.

Table 6				
Unmitigated Maximum Operational Emissions				
	ROG	NOx	PM₁₀[*]	PM_{2.5}[*]
Year 2025 (tons/year)	0.83	0.35	0.40	0.11
BAAQMD Threshold (tons/year)	10	10	15	10
Exceeds Threshold?	NO	NO	NO	NO
Year 2025 (lbs/day)	4.55	1.92	2.19	0.58
BAAQMD Threshold (lbs/day)	54	54	82	54
Exceeds Threshold?	NO	NO	NO	NO
* Denotes emissions from exhaust only. BAAQMD has not yet adopted PM thresholds for fugitive emissions.				
<i>Source: Illingworth & Rodkin, Inc., 2022.</i>				

As shown in the table, the project’s operational emissions would be below the applicable thresholds of significance. Because the project’s operational emissions would be below the applicable thresholds of significance, the project would not be considered to conflict with air quality plans during project operation.

Cumulative Emissions

Past, present, and future development projects contribute to the region’s adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of

AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 4 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 4, the project's emissions would be cumulatively considerable, resulting in a significant adverse cumulative air quality impact to the region's existing air quality conditions. Because the project would not generate criteria pollutant emissions above the applicable thresholds of significance, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State AAQS.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because construction and operation of the project would not result in emissions of criteria air pollutants in excess of BAAQMD's thresholds of significance, conflicts with or obstruction of the implementation of the applicable regional air quality plans would not occur. As a result, the project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or State AAQS. Thus, a **less-than-significant** impact would occur.

- c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive receptors to the project site are the Casa Grande Senior Apartments to the north; the single-family residences located to the east, across the Creek; the Casa Grande Subdivision to the south; and the Casa Grande High School to the west, across Casa Grande Road (see Figure 13).

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

Figure 13
Existing Sensitive Receptors in Project Vicinity



In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

Considering the project would be consistent with the General Plan land use designation for the site, the project would not conflict with the Sonoma County Transportation Authority (SCTA) Comprehensive Management Program (CMP).⁸ In addition, pursuant to Caltrans' Traffic Census Program, SR 116 at the SR116/SR 101 junction, approximately 1.2 miles southwest of the project site, experiences between 24,000 and 41,500 annual average daily traffic.⁹ Considering SR 116 is a State Highway, the assumption can be reasonably made that the traffic traveling along SR 116 would be greater than the traffic traveling on the local roadways in the project vicinity. Therefore, given the relatively small size of the project, the addition of project-generated vehicle trips would not be expected to increase traffic volumes at any intersections within the project vicinity to more than 44,000 vehicles per hour. Furthermore, intersections where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area.

Furthermore, the General Plan EIR evaluated potential impacts related to CO emissions that could occur as part of development facilitated by buildout of the General Plan planning area and found that through implementation of General Plan Policy 4-P-7, which requires the enforcement of General Plan land use and transportation strategies that promote use of alternatives to automobile transportation, the potential impact would be reduced to a less-than-significant level. The project is consistent with the site's Medium Density Residential designation and R4 zoning and would generally comply with applicable policies set forth in the General Plan and regulations and standards set forth by the PMC. As such, analysis of the project was generally included as part of buildout of the General Plan, and the project would not result in impacts beyond those that were identified in the General Plan EIR.

Based on the BAAQMD's screening criteria for localized CO emissions, the project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

⁸ Sonoma County Transportation Authority. *Moving Forward 2050: Sonoma County Comprehensive Transportation Plan*. September 2021.

⁹ California Department of Transportation. *2017 Traffic Volumes: Route 103-116*. Available at: <https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-103-116>. Accessed August 2022.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, gas-dispensing facilities, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk. As noted above, the nearest existing sensitive receptors to the project site are the Casa Grande Senior Apartments to the north; the single-family residences located to the east, across the Creek; and the Casa Grande High School to the west, across Casa Grande Road.

The project does not include any operations that would be considered a substantial source of TACs. Accordingly, operations of the project would not expose sensitive receptors to excess concentrations of TACs.

Short-term, construction-related activities would result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Construction would be temporary and occur over a relatively short duration in comparison to the operational lifetime of the project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the project is estimated to be approximately 19 months. Nevertheless, considering the proximity of the nearest sensitive receptors in the project vicinity, several of which abut the project site, the Construction Health Risk and Greenhouse Gas Assessment includes a Community Health Risk Assessment to evaluate potential impacts that could occur to the maximally exposed individual (MEI) in the immediate project vicinity.¹⁰

Construction Emissions

The maximum modeled annual DPM and PM_{2.5} concentrations, which include both the DPM and fugitive PM_{2.5} concentrations, were identified at nearby sensitive receptors to find the MEI (see Figure 13). Results of the assessment, which included consideration of future residents of the under-construction Casa Grande Subdivision to the south, indicated that the MEI to the proposed construction activities would be located at the adjacent Casa Grande Senior Apartments to the north of the project site. It should be noted that although the Casa Grande Subdivision would be located closer to the project site than the identified MEI, meteorological conditions (e.g., wind direction) result in the MEI being located at the adjacent Casa Grande Senior Apartments.

¹⁰ Illingworth & Rodkin, Inc. *Creekwood Subdivision Construction Health Risk and Greenhouse Gas Assessment*, Petaluma, California. July 11, 2022.

Table 7 summarizes the maximum cancer risks, PM_{2.5} concentrations, and health hazard indexes for project-related construction activities that could affect the MEI. Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum PM_{2.5} concentrations associated with construction activities at the nearby Casa Grande High School.

Table 7 Construction Health Risks at the Off-Site MEI			
Source	Cancer Risk (per million)	Annual PM2.5 (µg/m³)	Hazard Index
MEI – Casa Grande Senior Apartments			
Project Construction	5.97	0.19	0.07
BAAQMD Single-Source Threshold	10	0.3	1.0
Exceeds Threshold?	NO	NO	NO
Casa Grande High School			
Project Construction	0.58	0.03	<0.01
BAAQMD Single-Source Threshold	10	0.3	1.0
Exceeds Threshold?	NO	NO	NO
<i>Source: Illingworth & Rodkin, Inc., 2022.</i>			

The maximum increased cancer risks were adjusted using child exposure parameters. For more information on the method of analysis used to calculate TAC concentrations, please see the discussion under the Summary of Construction Community Risk Impacts heading in the Construction Health Risk and Greenhouse Gas Assessment. The annual PM_{2.5} health risks are presented in micrograms per cubic meter of air (µg/m³).

As shown in the table, the uncontrolled cancer risk, PM_{2.5} concentration, and health index risks at the MEI and Casa Grande High School would not exceed the applicable BAAQMD single-source significance thresholds. In addition, as previously discussed, the project would be required to implement the BAAQMD BCMMS, which would further reduce potential risks associated with DPM and PM_{2.5}, particularly BCMM 6, which requires that construction equipment either be shut off when not in use or not exceed idling time of five minutes. Therefore, construction-related community health risks from DPM and PM_{2.5} concentrations would be less than significant.

Cumulative Community Health Risks

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors located within 1,000 feet of a project site (i.e., the influence area). Such TAC sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

Pursuant to the Construction Health Risk and Greenhouse Gas Assessment, a review of the project area and provided traffic information indicate that roadways within the influence area do not have traffic exceeding 10,000 vehicles per day. In accordance with BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicles per day is considered a low-impact source of TACs and does not need to be considered in a CEQA analysis. In addition, BAAQMD’s stationary source geographic information systems (GIS) map tool did not identify stationary sources with the potential to affect the project site and MEI.

Based on the above, cumulative community health risks from DPM and PM_{2.5} concentrations would be less than significant.

Criteria Pollutants

The BAAQMD thresholds of significance were established with consideration given to the health-based air quality standards established by the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), and are designed to aid the district in achieving attainment of the NAAQS and CAAQS.¹¹ Although the BAAQMD's thresholds of significance are intended to aid achievement of the NAAQS and CAAQS for which the SFBAAB is in nonattainment, the thresholds of significance do not represent a level above which individual project-level emissions would directly result in public health impacts. Nevertheless, a project's compliance with BAAQMD's thresholds of significance provides an indication that criteria pollutants released as a result of project implementation would not inhibit attainment of the health-based regional NAAQS and CAAQS. Because project-related emissions would not exceed the BAAQMD's thresholds, and, thus, would not inhibit attainment of regional NAAQS and CAAQS, the criteria pollutants emitted during project implementation would not be anticipated to result in measurable health impacts to sensitive receptors. Accordingly, the project would not expose sensitive receptors to excess concentrations of criteria pollutants.

Conclusion

Based on the above discussion, the project would not expose any sensitive receptors to excess concentrations of localized CO, TACs, or criteria pollutants during construction or operation of the project. Consequently, the project would result in a **less-than-significant** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

- d. Emissions of concern include those leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in questions 'a' through 'c' above. Therefore, the following discussion focuses on emissions of odors and dust.

According to the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.¹² Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable.

¹¹ Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.

¹² Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.

However, construction activities would be temporary and pursuant to IZO Section 21.040, would be restricted to the hours of 7:00 AM to 10:00 PM, Monday through Friday, and 9:00 AM to 10:00 PM on Saturday, Sunday, and State, federal and local holidays. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

With respect to dust, as noted previously, the project would be required to implement BAAQMD's BCMMs during project construction. The BCMMs would act to reduce construction-related dust by requiring that haul trucks with loose material are covered, reducing vehicle dirt track-out, and limiting vehicle speeds within the project site, among other methods, which would ensure that construction of the project does not result in substantial emissions of dust. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, and non-paved areas would be landscaped. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

For the aforementioned reasons, construction and operation of the project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a **less-than-significant** impact would result.

IV. BIOLOGICAL RESOURCES.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

Discussion

a-e. Certain plant and wildlife species are considered to have special status if they are listed or proposed for listing under the federal or State Endangered Species Acts, meet the definition of rare or endangered under CEQA, or are considered rare locally. In addition, nesting birds and raptors are protected under the federal Migratory Bird Treaty Act of 1918 (MBTA), which prohibits killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA covers take of whole birds, parts of birds, and bird nests and eggs. Various sections of the California Fish and Game Code (CFGC) also designate certain avian, mammal, reptile, and amphibian species as fully protected. With respect to plant species, the California Native Plant Society (CNPS) maintains a list of plant species native to the State that have low numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA.

The City of Petaluma is considered part of the northern subunit of the San Francisco Bay Area. Coastal ranges in the region generally run from north to south and border the City on the east and west. The regional climate is heavily influenced by the proximity to the coastline. Annual rainfall averages 26.7 inches, and annual temperatures range from an average high of 82 degrees Fahrenheit in August to an average low of 57 degrees Fahrenheit in January. The project site consists primarily of agricultural fields planted with mixed grasses and forbs as forage crops for sheep grazing. In addition, the subject property includes two residences, a gravel driveway off Casa Grande Road that extends to the residence at 270 Casa Grande Road, associated outbuildings, and ornamental and garden vegetation. The Creek and its associated riparian corridor is located along the

eastern boundary of the project site. The Creek flows within the riparian corridor downstream, where it then confluences with the Petaluma River.

With regard to potential impacts to special-status species and sensitive natural communities, although the proposed dwelling units and new internal private street would be developed outside of a 50-foot setback from the top of the Creek bank, the off-site public multi-use pathway would be installed immediately adjacent to the Creek's riparian corridor. In addition, the off-site bridge connection would be installed over the Creek and require approximately 90 CY of net fill for the abutment fill slopes. Pursuant to the City's General Plan EIR, development immediately adjacent to the Creek could result in adverse impacts to various special-status fish species if construction activities were to occur within or adjacent to the stream channel. The Creek's riparian vegetation could also provide habitat to accommodate special-status invertebrates, amphibians, reptiles, mammals, and plants. Furthermore, the General Plan EIR found that the large trees throughout the City could serve as nesting habitat for raptors, and disturbances from construction activities in proximity to trees could cause nest abandonment and death of young or loss of reproductive potential at active nests. Considering the proximity of the project site to the Creek and its riparian corridor, the project could potentially disturb nesting raptors if such species are present within the trees adjacent to the Creek.

With respect to potential impacts to riparian habitat and/or federally or State-protected wetlands, as discussed, the Creek and its associated riparian corridor is located along the eastern boundary. The project would include development of the off-site public multi-use pathway immediately adjacent to the Creek's riparian corridor, installation of the off-site bridge connection over the Creek, approximately 90 CY of net fill for the abutment fill slopes along the banks of the Creek, and installation of two new stormwater outfalls into the Creek. Impacts to riparian woodlands are regulated under CFGC Section 1600, et seq. Specifically, CFGC Section 1602 requires notification to CDFW before a project commences "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW then reviews the proposed action(s). If CDFW determines that the proposed activity would substantially affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) containing measures to protect affected fish and wildlife resources would be required. In addition, the U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material below the ordinary high water mark (OHWM) of waters of the U.S. under Section 404 of the Clean Water Act (CWA), and any action that requires a CWA Section 404 permit must also obtain a CWA Section 401 Water Quality Certification (WQC). Additional analysis is required to determine if the proposed outfalls would be installed below the OHWM, thus resulting in discharge of fill into waters regulated by the USACE and the need for a Section 404 permit from the USACE. Based on the above, the project could have a substantial adverse effect on riparian habitat or other sensitive natural communities or on federally or State-protected wetlands, and a significant impact could occur.

Finally, with respect to potential impacts related to migratory wildlife corridors or native wildlife nursery sites or conflicts with local policies or ordinance protecting biological resources, the Creek and its associated riparian corridor could potentially serve as a migratory corridor and nursery site for special-status fish species. Potential impacts associated with development of the off-site public multi-use pathway and bridge connection could, therefore, result in substantial interference with wildlife movements. In addition, pursuant to IZO Section 17.060, removal of trees that qualify as protected trees

require a Tree Permit and replacement of the removed trees on the development site or in reasonable proximity to the site. Therefore, without compliance with the provisions of IZO Section 17.060, the project could result in a significant impact.

Based on the above, the project could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS; riparian habitats or other sensitive natural communities; state- or federally protected wetlands; and/or movement corridors or native wildlife nursery sites; or conflict with a local policy or ordinance protecting biological resources. Therefore, a **potentially significant** impact could occur.

Further analysis of the above potential impacts will be included in the Biological Resources chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

- f. A Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) has not been adopted in which the City of Petaluma is a participant. Therefore, the project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan, and **no impact** would occur.

V. CULTURAL RESOURCES.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

- a. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

A Cultural Resources Study (CRS) was prepared for the project by Montrose Environmental Solutions to determine to what extent historical and archaeological resources could be impacted by the project.¹³ The CRS included a record search of the California Historical Resources Information System (CHRIS) at the Northwest Information Center at Sonoma State University to determine whether cultural resources have been recorded within or adjacent to the project site, to determine if the site has been surveyed in the past, and to assess the likelihood of unrecorded cultural resources within the project site based on archaeological, ethnographic, and historical documents and literature. The CHRIS records search encompassed the project site and a 0.5-mile buffer zone and included a review of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), historical marker listings, Sacramento County resource listings, and historic maps. According to the records search, none of the 27 California Historic Landmarks in Sonoma County are located in or adjacent to the project site. Similarly, while the City of Petaluma includes eight sites listed on the NRHP, none are located in the immediate project vicinity. Additionally, according to the CRS, a total of 10 archaeological surveys have been completed within 0.5-mile of the project site. None of the surveys identified cultural resources within the project site. While three resources were identified within 0.5-mile of the site (i.e., the Martinelli Ranch Complex, a PG&E substation, and the Frates Ranch), the proposed construction activities would be limited to the boundaries of the project site and the areas immediately to the east along the Creek. Therefore, the project would not impact any of the foregoing known historic resources.

In addition to the CHRIS records search, the CRS included a field survey of the existing on-site residences located to the west of the Creek and the accessible portions of the Creek. According to the CRS, the project site is primarily comprised of the two residences and associated structures at 270 and 280 Casa Grande Road, as well as sheep pasture that consisted of dense spring grasses and forbs at the time of the site reconnaissance. The CRS noted that both residences are in good condition. A second field survey was

¹³ Montrose Environmental Solutions. *Cultural Resources Study: Falcon Point Associates, LLC, Creekwood Housing Development Project*. April 2022.

completed of the off-site area located between the Creek and Spyglass Road. Potential cultural resources were not identified as part of the second survey.

Pursuant to records maintained at the Sonoma County Assessor's Office, the residence at 280 Casa Grande Road was built in 1951 and the residence at 270 Casa Grande Road was built in the mid-1960s. Generally, properties eligible for listing in the NRHP are at least 50 years old. In addition, cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR. Thus, the on-site structures could be eligible for listing in the NRHP and CRHR. As the residence at 270 Casa Grande Road would be maintained on-site as part of the 0.637-acre Remainder, potential impacts to the residence would not occur. With respect to the residence at 280 Casa Grande Road, four criteria are used to determine if a potential resource may be considered significant and eligible for listing on the NRHP. The criteria include resources that:

1. NRHP Criterion A/CRHR Criterion 1: Are associated with events that have made a significant contribution to the broad patterns of history; or
2. NRHP Criterion B/CRHR Criterion 2: Are associated with the lives of persons significant in our past; or
3. NRHP Criterion C/CRHR Criterion 3: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. NRHP Criterion D/CRHR Criterion 4: Have yielded or may likely yield information important in prehistory or history.

According to the CRS, the 270 Casa Grande Road structure does not appear to be associated with significant historical events or individuals, and thus, does not meet NRHP Criterion A/CRHR Criterion 1 or NRHP Criterion B/CRHR Criterion 2. The structure is a basic design that does not present artistic or distinctive architectural values, and therefore, does not meet NRHP Criterion C/CRHR Criterion 3. Finally, neither the construction, location, nor physical characteristics of the structure offers any data that could be important to the interpretation of history in the region. As such, the structure does not qualify for listing under NRHP Criterion D/CRHR Criterion 4 and would not be eligible for listing in the NRHP and CRHR.

It should be noted that the City of Petaluma has designated two historic districts: the Petaluma Historic Commercial District, which encompasses much of Downtown Petaluma and includes contributing buildings, and the Oakhill-Brewster Historic District, a locally designated architectural preservation district located north and west of Downtown Petaluma. The project site is not located in either district.

Based on the above, because known cultural resources do not exist on-site (including the on-site residences), the project would not cause a substantial adverse change in the significance of a historical resource, and a **less-than-significant** impact would occur.

- b. According to the CRS, 10 archaeological surveys have been previously completed within 0.5-mile of the project site; although, none included the site. Additionally, as discussed above, the CRS included a pair of field surveys that encompassed the on-site residential areas west of the Creek, the accessible portions of the Creek, and the off-site area located between the Creek and Spyglass Road. Neither of the surveys yielded evidence indicating the presence of archaeological resources.

While known resources do not exist within the project site, the CRS noted that the project site is within the Coastal Miwok ethnographic territory. Archeological evidence indicates that the Miwok people chose to inhabit areas near small bays, lagoons, and streams. In addition, the project region had an abundance of food to serve the Miwok people, and the Miwok's daily activities included large game and bird hunting, fishing, and acorn gathering and processing. As such, the project vicinity potentially contains unknown Native American resources associated with the Coastal Miwok, including human remains, particularly in areas within historic waterways. Considering the project site's proximity to the Creek, the project could potentially disturb unknown archaeological resources, should they be located within the project footprint, and a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

V-1 *If during the course of ground-disturbing activities, including, but not limited to, excavation, grading, and construction, a potentially significant prehistoric or historic resource is encountered, all work within a 100-foot radius of the find shall be suspended for a time deemed sufficient for a qualified and City-approved archaeologist to adequately evaluate and determine significance of the discovered resource and provide treatment recommendations.*

Should a significant archeological resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

- c. Although the project site does not include evidence suggesting that human remains have been interred within the site boundaries, in the event that human remains are encountered during ground-disturbing activities, the project would comply with all requirements set forth by California Health and Safety Code Section 7050.5, including the immediate cessation of ground-disturbing activities near or in any area potentially overlying adjacent human remains and contacting the Sonoma County Coroner upon the discovery of any human remains. If the County Coroner determines that the discovered remains are of Native American descent, the Native American Heritage Commission (NAHC) would be contacted immediately. If required, the project sponsor would retain a City-qualified archeologist to provide adequate inspection, recommendations, and retrieval. Compliance with California Health and Safety Code Section 7050.5 and performance of actions therein would ensure that in the event of accidental discovery of historically significant human remains, all potential impacts would remain less than significant.

Based on the above, through compliance with the requirements set forth by California Health and Safety Code Section 7050.5, the project would not disturb human remains, including those interred outside of dedicated cemeteries and a ***less-than-significant*** impact would occur.

VI. ENERGY.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a,b. The main forms of available energy supply are electricity and oil. A description of the California Green Building Standards Code and the Building Energy Efficiency Standards, with which the project would be required to comply, as well as discussions regarding the project’s potential effects related to energy demand during construction and operations, are provided below.

California Green Building Standards Code

The California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the CBSC. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle (EV) charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources’ Model Water Efficient Landscape Ordinance (MWELO), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board; and
- For single-family and some low-rise residential development developed after January 1, 2020, mandatory on-site solar energy systems capable of producing 100 percent of the electricity demand created by the residence(s).

Building Energy Efficiency Standards

The 2019 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2016 Building Energy Efficiency Standards. For residential buildings, compliance with the 2019 standards will result in approximately seven percent less energy use, relative to homes built in compliance with the 2016 standards.¹⁴ Once rooftop solar electricity generation is factored in, homes built under the

¹⁴ California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

2019 standards use approximately 53 percent less energy than those constructed under the 2016 standards. It should be noted that the 2022 standards will go into effect January 1, 2023.

Construction Energy Use

Construction of the project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met through a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated by the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

The CARB has prepared the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan),¹⁵ which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The In-Use Off-Road Diesel Vehicle Regulation described above, with which the project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Based on the above, the temporary increase in energy use occurring during construction of the project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following construction of the project, supplemental electricity would be provided to the project site by PG&E and Sonoma Clean Power, a community choice program provider that sells electricity generated from renewable energy sources that is then delivered

¹⁵ California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.

through PG&E's grid. In accordance with the 2019 Building Energy Efficiency Standards, the project would be required to include on-site renewable energy systems capable of producing 100 percent of the electricity demanded by the residences. Energy use associated with operation of the project would be typical of residential uses, requiring electricity for interior and exterior building lighting; heating, ventilation, and air conditioning (HVAC); electronic equipment; machinery; appliances; security systems; and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric- or gas-powered equipment. In addition to on-site energy use, the project would result in transportation energy use associated with vehicle trips generated by resident commutes.

The project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently. As previously noted, each of the dwelling units would be required to include photovoltaic (PV) generation sized to meet all of the homes' expected electricity needs. Required compliance with the CBSC would ensure that the building energy use associated with the project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project by PG&E would comply with the State's Renewables Portfolio Standard, which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, in addition to the solar energy generated by the on-site PV systems, a portion of the supplemental energy provided by PG&E to the project site would also originate from renewable sources.

Through adoption of Ordinance No. 2708 N.C.S. in 2020, the Petaluma City Council adopted the Tier 2 CALGreen Standards to meet higher levels of building energy efficiency. The Tier 2 standards generally achieve energy efficiency approximately 30 percent beyond those necessitated by Title 24, as well as a construction waste reduction rate of 45 percent. CALGreen Tier 2 standards reduce energy consumption by HVAC systems and require use of low-water irrigation systems, water-efficient appliances and faucets, cool roofs, short- and long-term bicycle parking, EV charging spaces, outdoor energy performance lighting, and other mandatory energy efficiency measures. Prior to issuance of a building permit, the proposed residences and associated site improvements would be required to demonstrate compliance with the CALGreen Tier 2 standards.

Finally, consistent with PMC Chapter 17.09, the proposed units would not include natural gas infrastructure. The General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to result in wasteful, inefficient, or unnecessary consumption of energy and found that through incorporation of General Plan Policy 4-P-18, which requires local adoption of energy standards resulting in less energy consumption than those set forth by Title 24, a less-than-significant impact would occur. As discussed, the project is consistent with the site's Medium Density Residential designation and R4 zoning and would be subject to applicable policies set forth by the General Plan and regulations and standards set forth at the State and local level. Therefore, buildout of the project site with the proposed uses was generally considered as part of buildout of the General Plan, and the project would not result in impacts beyond those that were identified in the General Plan EIR.

With regard to transportation energy use, the project would comply with all applicable regulations associated with vehicle efficiency and fuel economy, including mandatory EV-capable parking spaces required by CALGreen. For single-family residences, townhomes, and duplexes, CALGreen requires all new dwelling units to have electrical panel capacity, a dedicated branch circuit, and a listed raceway to accommodate a dedicated 208/40-volt branch circuit to support future installation of charging stations.

Conclusion

Based on the above, construction and operation of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a **less-than-significant** impact would occur.

VII. GEOLOGY AND SOILS.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Directly or indirectly cause 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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

The following discussions are based on the Geotechnical Investigation and the Addendum to the Geotechnical Report (Geotechnical Addendum) prepared for the project by PJC & Associates, Inc. (see Appendix B of this IS).^{16,17}

ai,aii. The project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and known surface expressions of active faults do not exist within the property. While the project site does lie within a seismically active region and numerous faults in the area are considered active, the project site is not within a currently established California Earthquake Hazard Zone for surface fault rupture hazards.¹⁸ In addition, pursuant to the Geotechnical Investigation, the project site does not include active faults with the potential for surface fault rupture directly beneath the site. The three closest known active faults to the site are the Rodgers Creek, the West Napa, and the San Andreas faults, which are 2.27 miles to the northeast, 15.55 miles to the east, and 16.73 miles southwest from the

¹⁶ PJC & Associates, Inc. *Geotechnical Investigation: Proposed Residential Development, 270 & 280 Casa Grande Road, Petaluma, California, APN: 017-040-008 & 015.* September 21, 2020.

¹⁷ PJC & Associates, Inc. *Addendum to Geotechnical Report: Proposed Residential Subdivision, 270 & 280 Casa Grande Road, Petaluma, California, APN: 017-040-008 & 015.* January 6, 2022.

¹⁸ California Department of Conservation. *Earthquake Zones of Required Investigation.* Available at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed August 2022.

site, respectively. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

Additionally, the proposed buildings would be properly engineered in accordance with the CBSC, which includes engineering standards appropriate for Site Design Category D structures, such as the proposed dwelling units. Proper engineering of the project would ensure that seismic-related effects would not cause adverse impacts. Based on the above information, the project would not directly or indirectly cause substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking, and a **less-than-significant** impact would occur.

a.iii, a.iv, The project's potential effects related to liquefaction, landslides, lateral spreading, and c. subsidence are discussed in detail below.

Liquefaction and Subsidence

Soil liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction are: moderate to strong ground shaking (seismic source), relatively clean, loose granular soils (primarily poorly graded sands and silty sands), and saturated soil conditions (shallow groundwater). Due to the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile. However, liquefaction has occurred in soils other than clean sand.

Pursuant to the Geotechnical Investigation, the project site is not located in an area designated by the California Geologic Survey (CGS) as a Liquefaction Zone; however, according to the Association of Bay Area Governments Resilience Program's online Liquefaction Susceptibility Map, the project site is considered to have moderate susceptibility to liquefaction during or immediately following a significant seismic event. The Geotechnical Investigation included the drilling of eight exploratory boreholes (BH-1 through BH-8) to maximum depths of 50.5 feet below the existing ground surface (bgs). In order to confirm the potential for liquefaction at the site, soils encountered in BH-1, which was drilled to a depth of 50 feet bgs, were evaluated for liquefaction potential of the strata. Based on the results, the Geotechnical Investigation concluded the strata at the project site are not prone to liquefaction, as the on-site granular soils are of relatively high densities and on-site clay soils are of high plasticity. It should be noted that the Geotechnical Investigation evaluated potential impacts associated with development of the project site with 35 residential lots; however, pursuant to the Geotechnical Addendum, the conclusions of the Geotechnical Investigation would still be applicable to the currently proposed project. Therefore, the potential for liquefaction to pose a risk to the project is considered low.

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. Given that the project would comply with the CBSC, the potential for subsidence to pose a risk to the project is considered low.

Landslides and Lateral Spreading

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site is flat and located near an elevation of 48 feet above mean sea level. Thus, the project would not be subject to potential landslide hazards.

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. According to the Geotechnical Investigation, the project site does not contain overly steep, exposed faces or banks in close proximity to the site. Therefore, the potential for lateral spreading to pose a risk to the project is considered low.

Conclusion

Based on the above, the distance of the project site from the nearest active fault, the relatively flat topography of the project site, acceptable subsurface conditions, and compliance with the CBSC would ensure that the project would not be susceptible to on-site liquefaction, landslides, lateral spreading, or subsidence. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving liquefaction or landslides, and would not 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. Thus, a **less-than-significant** impact would occur.

- b. Erosion refers to the removal of soil from exposed bedrock surfaces by wind or water. Although naturally occurring, erosion is often accelerated by human activities that disturb soil and vegetation. The topography of the project site is relatively level, and upon development of the site with buildings and structures, the amount of exposed soil that may be lost due to wind or stormwater runoff would be minimized. However, development of the site, primarily during the early stages of construction activities, would cause ground disturbance of mostly topsoil, potentially resulting in wind erosion or an accelerated rate of erosion during storm events.

The project would include grading and development of the project site with 62 dwelling units, various on-site road and utility improvements, landscaping, and a new off-site public multi-use pathway, with a bridge connection over the Creek. The ground disturbance would be limited to the areas proposed for grading and excavation, including building pads; curb, gutter, and sidewalk improvement areas; drainage, sewer, and water infrastructure alignments; and improvement areas along the banks of the Creek. After grading and excavation and prior to overlaying the disturbed ground surfaces with impervious surfaces and structures, the potential exists for wind and water erosion to occur, which could adversely affect downstream storm drainage facilities. New development within the City that disturbs one or more acres of land is required to comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The project would disturb approximately 4.56 acres, and therefore, would be subject to the NPDES requirements. As part of compliance with the Construction General Permit, the project would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP), incorporating Best Management Practices (BMPs) or equivalent measures designed to control surface runoff and erosion, retain sediment on-site, and prevent pollution of site runoff during the period in which preconstruction- and construction-related

grading and/or soil storage occur, and before final improvements or permanent structures are completed. BMPs to prevent erosion-related impacts include, but are not limited to, minimizing the disturbed area to the maximum extent feasible; diversion ditches or berms to direct on-site stormwater runoff to a sediment-trapping structure; stabilization of exposed soils in areas where construction activities have ceased, including through temporary seeding, blankets and mats, and/or the use of soil blinders; and storm drain inlet protection through the use of inlet filters, such as silt fencing and/or rock-filled bags.

In addition, as necessitated by PMC Section 17.31.190, the project would be required to prepare a final erosion and sediment control plan that effectively minimizes soil erosion and sedimentation from the completed project and must also provide for the control of runoff from the project site. The final erosion and sediment control plan would be required to be prepared by a registered civil engineer and submitted to the City prior to approval of a building permit.

Based on the above, through compliance with the NPDES Construction General Permit and PMC Section 17.31.190, the project would not result in substantial soil erosion or loss of topsoil, and a **less-than-significant** impact would occur.

- d. Expansive soils change in volume with changes in moisture and can shrink or swell, causing heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. As part of the Geotechnical Investigation, Atterberg Limits testing and Expansion Index testing were conducted for the on-site soils to assess the plasticity characteristics of the on-site soils. The Geotechnical Investigation found that the top two to three feet of surface soils are weak and compressible. Weak and compressible soils appear hard and strong when dry, but can lose strength rapidly and collapse from the loads of fills, foundations, or slabs-on-grade as their moisture increases and approaches saturation. Thus, due to the test results, as well as the conclusions of visual observations, the Geotechnical Investigation determined that the on-site soils exhibit high plasticity characteristics and, therefore, have very high potential for expansion. As previously discussed, the foregoing conclusion was affirmed for the project by the Geotechnical Addendum.

The project would be required to comply with all applicable CBSC standards to ensure the structural integrity of the proposed structures. The Geotechnical Investigation includes recommendations to address potential impacts related to expansive soils and settlements, including measures pertaining to foundations, pavements, existing fill removal, fill compaction, acceptable engineered fill, and review of the final improvement plans to ensure the recommendations contained in the Geotechnical Investigation have been properly incorporated into the project design.

Based on the above, without compliance with the recommendations contained in the Geotechnical Investigation, expansive soils could impact the project, creating substantial direct or indirect risks to life or property. Therefore, the project could result in a **potentially significant** impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a **less-than-significant** level.

VII-1 *Prior to the issuance of grading permits, the project civil engineer shall show on the final improvement plans that the project design adheres to all engineering recommendations provided in the site-specific Geotechnical Investigation prepared for the project by PJC & Associates, Inc. The recommendations incorporated into the final improvement plans shall include, but not be limited to, those pertaining to the top 18 inches of soil beneath exterior flatwork consisting of imported engineered fill; demolition and stripping; excavation and compaction; temporary slopes; and vertical loads and lateral loads of post-tension slab-on-grade foundations. Proof of compliance with all recommendations set forth in the Geotechnical Investigation shall be subject to review and approval by the City Engineer.*

- e. Sewer collection for the project would be provided by connection to the City's sewer system. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, **no impact** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.
- f. Paleontological resources are the fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. The General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to result in impacts to unique paleontological resources or sites. As noted therein, while areas of potential paleontological significance are present throughout the rural and built-up areas of the City, known paleontological sites have not been identified within the General Plan planning area.

The project site has already experienced ground disturbance as part of the construction activities associated with the site's existing residences and associated structures. In addition, the project would not include construction activities extending to depths at which unique paleontological resources are typically encountered. As such, the project would have only limited potential for encountering paleontological resources within the project site. Additionally, PRC Sections 5097 to 5097.6, with which the project would be required to comply, prohibit the unauthorized disturbance or removal of paleontological resources. Furthermore, the General Plan EIR evaluated the potential for development facilitated by buildout of the planning area to result in potential impacts to unique paleontological resources and concluded that with compliance with applicable General Plan policies, the potential impact would be reduced to a less-than-significant level. The project is consistent with the site's Medium Density Residential designation and would comply with applicable policies set forth in the General Plan. Therefore, the project would not result in impacts beyond what were identified in the General Plan EIR.

Based on the above, due to the previous disturbance to which the project site has already experienced and the project's required compliance with PRC Sections 5097 to 5097.6, the project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, and a **less-than-significant** impact would occur.

VIII. GREENHOUSE GAS EMISSIONS.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. GHG emissions contribute to global climate change and are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, cumulative global GHG emissions that contribute to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project’s GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to GHG emissions are inherently considered cumulative impacts.

A number of regulations currently exist related to GHG emissions, predominantly AB 32, Executive Order S-3-05, and Senate Bill (SB) 32. AB 32 sets forth a statewide GHG emissions reduction target of 1990 levels by 2020. Executive Order S-3-05 sets forth a transitional reduction target of 2000 levels by 2010, the same target as AB 32 of 1990 levels by 2020, and further builds upon the AB 32 target by requiring a reduction to 80 percent below 1990 levels by 2050. SB 32 also builds upon AB 32 and sets forth a transitional reduction target of 40 percent below 1990 levels by 2030. In order to implement the statewide GHG emissions reduction targets, local jurisdictions are encouraged to prepare and adopt area-specific GHG reduction plans and/or thresholds of significance for GHG emissions. Accordingly, the City of Petaluma adopted a Climate Emergency Framework (CEF) on January 11, 2021. The purpose of the CEF is to outline principles to guide the City’s ongoing response to and discussion about the climate crisis and to guide and inform subsequent policies and implementation strategies. The CEF consists of the following four sections:

1. Equity and Climate Justice: The section explains the ethical implications of climate change that must be solved while simultaneously addressing the crisis of inequity in the community that threatens successful and collective climate action.
2. Mitigation and Sequestration: The section discusses the major sources of GHG emissions in the City of Petaluma, what can be done to reduce and eliminate GHG emissions generated in the City, and how the City can remove carbon from the atmosphere.
3. Adaptation and Social Resilience: The section explains how the City can prepare for climate change impacts and develop the means to withstand the impacts that cannot be avoided.
4. Community Engagement: The section discusses the necessity of community engagement in order to address the climate crisis to allow the City to collectively set and meet climate action targets and to strengthen the community in the process.

As detailed in the Mitigation and Sequestration section of the CEF, the City's goal is to develop a Climate Change Adaptation and Resilience Plan that would:

- Assess anticipated climate impacts and inform City decisions and investments in infrastructure and land use planning to improve those impacts;
- Prioritize known climate change risks with the greatest anticipated impact on Petaluma residents, environment, and economy into yearly budgets for adaptation and resiliency implementation;
- Address adaptation and resilience with whole-system thinking for long-term ecosystem vitality as the basis for community and environmental wellbeing and economic vitality;
- Support the Petaluma environment by such measures as open space and green space preservation, high-use/low-impact project designs, a healthy urban forest, wildlife corridor preservation and protected habitat areas, and nature-based stormwater management system that contributes to local ecosystem health and protects and enhances existing native habitat areas and natural systems;
- Develop resilient infrastructure and community readiness, including backup sources of water, power, and communications;
- Restore and enhance local ecosystem health and improve resilience to climate change; and
- Facilitate development that minimizes and anticipates impacts from climate change and respects the ecological health of the Petaluma River, wetlands, wet meadow, grasslands, greenbelt, and open space ecosystems.

Estimated GHG emissions attributable to the project would be primarily associated with increases of carbon dioxide (CO₂) and, to a lesser extent, other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O). Buildout of the project would contribute to increases of GHG emissions that are associated with global climate change during construction of the proposed residences, site improvements, and off-site improvements. In addition, during project operations, new vehicle trips associated with the future residents of the project would contribute to increases of GHG emissions associated with global climate change. As such, the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, impacts related to GHG emissions and global climate change could be cumulatively considerable and considered ***potentially significant***.

Further analysis of the above potential impact will be included in the Greenhouse Gas Emissions chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

IX. HAZARDS AND HAZARDOUS MATERIALS.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
e. For a project located within 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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a. A significant hazard to the public or the environment could result from the routine transport, use, or disposal of hazardous materials. Projects that involve the routine transport, use, or disposal of hazardous materials are typically industrial in nature. The project would not be industrial in nature. Operations of the proposed 62-unit residential project would not include any activities that would involve the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. During operations, hazardous material use would be limited to landscaping products such as fertilizer, pesticides, as well as typical commercial and maintenance products (cleaning agents, degreasers, paints, batteries, and motor oil). Proper handling and usage of such materials in accordance with label instructions would ensure that adverse impacts to human health or the environment would not result. Thus, operations of the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

During project construction, the project contractor would be required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Pursuant to California Health and Safety Code Section 25510(a), except as provided in subdivision (b),¹⁹ the handler or an employee, authorized representative, agent, or designee of a handler, must, upon discovery, immediately report any release or threatened release of a hazardous material

¹⁹ Subdivision (a) does not apply to a person engaged in the transportation of a hazardous material on a highway that is subject to, and in compliance with, the requirements of Sections 2453 and 23112.5 of the Vehicle Code.

to the unified program agency (in the case of the project, Sonoma County Environmental Health and Safety Division [SCEHSD]) in accordance with the regulations adopted pursuant to Section 25510(a). The handler or an employee, authorized representative, agent, or designee of the handler must provide all State, city, or county fire or public health or safety personnel and emergency response personnel with access to the handler's facilities. In the case of the project, the contractors would be required to notify the SCEHSD in the event of an accidental release of a hazardous material, who would then monitor the conditions and recommend appropriate remediation measures.

Based on the above, because the project is not industrial and would be required to comply with all California Health and Safety Codes and local County ordinances, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a **less-than-significant** impact would occur.

- b. A Phase I Environmental Site Assessment (ESA) was prepared for the project by Montrose Environmental Solutions (see Appendix C of this IS) for the purposes of identifying, to the extent possible, whether former activities at or near the project site may have involved or resulted in the use, storage, disposal, and/or release of hazardous or potentially hazardous substances to the environment.²⁰ The Phase I ESA was prepared in conformance with the general scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-21 standard. Past and current uses of the project site and surrounding properties were evaluated by reviewing available historical aerial photographs and topographic maps; federal, State, and local databases of known storage tank sites and known sites of hazardous materials generation, storage, and/or release; and site conditions through a site reconnaissance.

According to the Phase I ESA, historical aerial images indicate that the project site was predominantly undeveloped, aside from the existing residence at 280 Casa Grande Road, until 1968, when the driveway and eastern residence at 270 Casa Grande Road was built. Between 1970 and 1973, an associated barn structure was constructed. Development in the project vicinity likely occurred around 1973, as the Casa Grande High School and some residential development appear in a 1973 aerial image. By 1982, additional dense residential development is visible north and south of the project site. By 2006, the subject property and immediate adjoining properties to the north and south are surrounded by residential development. In 2009, the adjacent property immediately to the north is developed with the Casa Grande Senior Apartments. By this time, industrial or commercial land uses do not appear in the project vicinity, except for the site of the now under-construction Casa Grande Subdivision immediately to the south, which was previously occupied by a farm equipment repair facility. The current uses of the project site include the two existing residences, both of which are occupied, associated outbuilding used for storage, grazing land for livestock, and a small garden and stand of fruit trees located between the residences and the Creek.

The Phase I ESA's review of federal, State, and local databases of known storage tank sites and known sites of hazardous materials generation, storage, and/or release was conducted to determine if the subject property or adjacent sites contain Recognized Environmental Conditions (RECs) that would impact surface and/or subsurface conditions

²⁰ Montrose Environmental Solutions. *Phase I Environmental Site Assessment: Falcon Point Associates, LLC, Creekwood Housing Development Project*. June 2022.

on-site. The database searches encompassed records of known sites within one mile of the project site. A REC indicates the presence or likely presence of any hazardous substances in, on, or at a property due to any release into the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment. The project site is not listed on any of the reviewed databases. Although the Phase I ESA identified nine sites with 26 database listings, a site listed on a regulatory agency database does not necessarily mean a hazardous materials release occurred at the listed site. Further review determined that the sites either do not include listings indicating past releases of hazardous materials in violation of permitted operations, are of sufficient distance from the project site, and/or have remediated past releases of materials. Therefore, the Phase I ESA found that none of the listed nine sites in the project vicinity pose a material threat of a future release to the environment that could result in a potential impact as part of the project.

Finally, site visits were conducted on April 15, 2020; November 23, 2021; and April 7, 2022, as part of the Phase I ESA to identify current or historic hazardous materials involvement on the subject property. Hazardous materials involvement or signature environmental conditions include the presence or likely presence of any hazardous materials or petroleum products that indicate an existing release, past release, or a threat of release into any structure on-site, the soil, or groundwater. Signs of possible hazardous materials involvement include any indications of on-site underground storage tanks (USTs); stained soils and/or unusual odors originating from the site; indications of any excavation or removal of soils, including patched asphalt and large debris piles; and other obvious signs of hazardous materials involvement. As determined by the site reconnaissance, the project site does not include evidence of the following potentially hazardous conditions:

- USTs and associated piping;
- Odors;
- Pools of liquid;
- Unidentified substance containers;
- Polychlorinated biphenyls (PCBs);
- Pits, ponds, or lagoons;
- Stained soil;
- Stressed vegetation;
- Solid waste; and
- Wastewater discharges into drains, ditches, underground injection systems, or streams.

The final site visit included observations of yard maintenance equipment, a two-gallon gasoline can, a backpack sprayer, buckets used for storage, and an unlabeled drum used for garbage associated with the 270 Casa Grande Road outbuildings. The residence also featured an abandoned chicken coop, a pile of lumber, fence poles, siding, and several concrete blocks stored for future use. Several fruit trees and a garden plot east of the residence were also observed. While the above conditions could potentially represent RECs if operated improperly, the Phase I ESA found that none of the above conditions indicated improper storage of hazardous materials on-site. In addition, the identified fruit trees and garden are associated with the residence at 270 Casa Grande Road and not a commercial operation; therefore, the trees have not been subjected to levels of pesticides that could potentially expose future construction workers or project residents to health

risks, as such risks are typically more synonymous with pesticides applied to commercial orchards, which are subjected to much higher levels of pesticides.

As previously discussed, the residence at 280 Casa Grande Road was constructed as early as 1942. Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be “fibrous” and through processing can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. Because of its fiber strength and heat resistance, asbestos has been used in a variety of building construction materials for insulation and as a fire retardant. Exposure to asbestos increases the risk of developing lung disease, such as lung cancer, mesothelioma, and asbestosis.²¹ For buildings constructed prior to 1980, the Code of Federal Regulations (CFR) (Title 29, Section 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as “presumed asbestos-containing material” unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act. In addition, lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. Lead was most commonly used in paint. In 1978, the Consumer Product Safety Commission banned the use of lead as an additive to paint; however, lead-based paints (LBPs) could be present in structures built prior to 1970. Typically, human exposure to lead from older vintage paint could occur during renovation, maintenance, or demolition work. Given the age of the residence, the Phase I ESA determined that the residence potentially contains asbestos-containing insulation and LBPs. Should such conditions be present, demolition of the residence could expose construction workers and members of the public in the project vicinity to hazardous conditions. In addition, off-hauling of contaminated building materials and soils could result in contaminated dust emissions during removal and transport. As such, receptors located along off-hauling routes associated with the proposed demolition activities could be exposed to hazardous conditions.

Finally, the Phase I ESA determined that both on-site residences use septic tanks for wastewater disposal. As the 270 Casa Grande Road residence would be provided sewer service by the City through connecting to the existing sewer main Casa Grande Road, both septic tanks would require removal. Excavation and removal of the septic tank systems could damage the tanks or uncover defects in the tanks that potentially allow contamination to escape into the soil. As such, without proper removal of the septic tanks and soil testing to confirm contamination has not occurred, the project could create a significant hazard to the environment. Additionally, any on-site wells that could require abandonment, such as the private well associated with the 270 Casa Grande Road residence, could create a significant hazard to the environment, if they are not abandoned correctly.

Based on the above, without further measures to prevent the release of hazardous materials associated with asbestos, LBPs, and the on-site septic tanks, the project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials. Thus, a **potentially significant** impact could occur.

²¹ U.S. Environmental Protection Agency. *Learn About Asbestos*. Available at: <https://www.epa.gov/asbestos/learn-about-asbestos#find>. Accessed August 2022.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impacts to a *less-than-significant* level.

- IX-1 *Prior to issuance of a demolition permit by the City for the on-site structure at 280 Casa Grande Road, the project applicant shall provide a site assessment that determines whether the structure to be demolished contains lead-based paint (LBP) or asbestos. If the structure does not contain LBP or asbestos, further mitigation shall not be required; however, if LBP is found, all loose and peeling paint shall be removed and disposed of by a licensed and certified lead paint removal contractor, in accordance with California Air Resources Board recommendations and Occupational Safety and Health Administration (OSHA) requirements. If asbestos is found, all construction activities shall comply with all requirements and regulations promulgated through the Bay Area Air Quality Management District (BAAQMD) Asbestos Demolition and Renovation Program. The demolition contractor shall be informed that all paint on the building shall be considered as containing lead and/or asbestos. The contractor shall follow all work practice standards set forth in the Asbestos National Emission Standards for Hazardous Air Pollutants (Asbestos NESHAP, 40 CFR, Part 61, Subpart M) regulations, as well as Section V, Chapter 3 of the OSHA Technical Manual. Work practice standards generally include appropriate precautions to protect construction workers and the surrounding community, and appropriate disposal methods for construction waste containing lead paint or asbestos in accordance with federal, State, and local regulations subject to approval by the City Engineer.*
- IX-2 *Prior to issuance of a demolition permit by the City for the on-site structure at 280 Casa Grande Road, the project applicant shall prepare an Off-Hauling and Disposal Plan that incorporates industry standard BMPs during proposed off-hauling activities associated with waste from on-site demolition activities. The following Best Management Practices (BMPs) shall be incorporated:*
- *During loading activities, the project contractor shall place two layers of heavy plastic sheeting (minimum thickness of six mils) beneath trucks to be used for off-hauling activities to collect any spilled soil;*
 - *After each truck is loaded and prior to removing the plastic sheeting, visible dust or soil spilled during loading shall be removed from the top rails, fences, tires, and all other surfaces by dry brushing methods at the point of loading;*
 - *Collected soil on the plastic sheeting shall be removed periodically to avoid the spreading of contaminated soil on truck tires;*
 - *The soil shall be transported by a licensed transporter;*
 - *All off-hauling trucks shall be loaded at the project site and appropriately covered (taped), in accordance with U.S. Department of Transportation regulations;*

- Loaded trucks shall use the most direct routes to the disposal site(s) to provide the least risk of exposure to surrounding communities and avoid residential areas to the maximum extent feasible and;
- Any additional BMPs determined necessary by the City Engineer.

During loading activities, the project contractor shall ensure that all applicable work practice standards set forth in Section V, Chapter 3 of the OSHA Technical Manual are followed, including appropriate precautions to protect construction workers and the surrounding community, in accordance with applicable federal, State, and local regulations, including those set forth by the Sonoma County Environmental Health and Safety Division (SCEHD) and the Department of Toxic Substances Control (DTSC). The Off-Hauling and Disposal Plan shall be subject to approval by the City Engineer.

IX-3 Prior to improvement plan approval, the project applicant shall ensure that the on-site septic systems are abandoned in compliance with applicable SCEHSD standards. Upon removal, the septic tanks shall be inspected for leaks. Should any leaks be identified, the project applicant shall conduct additional testing of soils at the location of the on-site septic systems for chemicals associated with the on-site septic systems in accordance with applicable USEPA Methods. Where concentrations exceed applicable DTSC screening levels, the soil shall be excavated and that portion of material shall be transported and disposed of off-site at an appropriate Class I or Class II facility permitted by DTSC, or other options implemented as deemed satisfactory to SCEHSD. The results of soil sampling and analysis, as well as verification of proper remediation and disposal, shall be submitted to the City of Petaluma Planning Division for review and approval. Any remediation shall be completed prior to acceptance of the site improvements for that phase.

IX-4 Prior to improvement plan approval, the project applicant shall hire a licensed well contractor to obtain a well abandonment permit from the SCEHSD for all on-site wells, and properly abandon the on-site wells, pursuant to Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III), for review and approval by the SCEHSD.

- c. The project site is located immediately to the east of Casa Grande High School. Therefore, the project would be located within 0.25-mile of an existing school. However, as discussed under question 'a,' projects that emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste are typically industrial in nature. The project would not be industrial in nature and would, instead, consist of 62 dwelling units. Thus, operations of the project would not result in a significant impact to Casa Grande High School related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste.

As discussed under question 'b,' based on the age of the 280 Casa Grande Road residence, the project site could contain asbestos-containing building materials and LBP materials, which are considered potential RECs. Demolition of the residence and/or disposal of contaminated materials could, therefore, release hazardous emissions, materials, substances, and/or waste within 0.25-mile of Casa Grande High School. In

addition, off-hauling of contaminated building materials and soils could result in contaminated dust emissions during removal and transport, which could also potentially impact students and staff at Casa Grande High School.

However, the project would be subject to Mitigation Measures IX-1 and IX-3, which would ensure that all identified potential RECs within the project site are handled in accordance with federal, State, and local regulations. In addition, although off-hauling of contaminated building materials and soils could result in contaminated dust emissions during removal and transport, Mitigation Measure IX-2 requires compliance with SCEHD and DTSC regulations and incorporation of BMPs to ensure that demolition and/or off-hauling activities during project construction would not result in a significant impact related to contaminated dust emissions to Casa Grande High School.

Based on the above information, while the project site is located within 0.25-mile of Casa Grande School, the project would not result in substantial adverse effects related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste. Therefore, the project would result in a **less-than-significant** impact.

- d. The project site is not identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.²² Therefore, the project would not create a significant hazard to the public or the environment, and **no impact** would occur.
- e. The nearest airport to the site is the Petaluma Municipal Airport, which is located approximately 0.85-mile northwest of the site. As such, the project site is located within two miles of a public airport. However, pursuant to the City's Airport Safety Zones Map, the project site is not located within any of the safety zones established for the airport by the City of Petaluma, which provides oversight through the City's Airport Commission.²³ As such, safety hazards associated with Petaluma Municipal Airport would not occur. Potential noise impacts associated with the airport are discussed in Section XIII, Noise, of this IS. The project site is not located within two miles of another airport. Based on the above, the project would not result in a safety hazard or excessive noise for people residing or working in the project area, and a **less-than-significant** impact would occur.
- f. The County of Sonoma manages a countywide evacuation map that is used to help identify areas under threat either by fire, flood, earthquake, or power outage and includes zones for areas within the City of Petaluma, as well as areas in other cities and unincorporated portions of the County.²⁴ The map indicates any current evacuation warnings or orders. Implementation of the project would not result in any substantial modifications to the City's existing roadway system, and thus, would not affect evacuation warnings or orders established by the countywide evacuation map.

In addition, the City maintains an Emergency Operations Plan to minimize the impact of emergencies, such as wildfires, power shutoffs, and/or flooding, through developed

²² California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: <https://dtsc.ca.gov/dtscs-cortese-list>. Accessed August 2022.

²³ City of Petaluma. *Airport Safety Zones, Petaluma Municipal Airport*. Available at: <https://cityofpetaluma.org/documents/airport-safety-zones-map/>. Accessed August 2022.

²⁴ City of Petaluma. *Emergency Evacuations*. Available at: <https://cityofpetaluma.org/emergency-evacuations/>. Accessed August 2022.

protocols and standards for handling such events.²⁵ Given the project's consistency with the site's land use designation and zoning designation, the project would not directly conflict with any of the goals established in the Emergency Operations Plan.

Finally, the City's General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and found that while new development would include the addition of access points to the existing circulation and street system, new access points and/or streets in various parts of the City would be required to conform to the circulation efficiency regulations established by the PMC, which includes requirements for new access points to facilitate emergency response. The project would be required to be designed with applicable standards set forth by the PMC, including those established within the City of Petaluma Street Construction Standards. Additionally, the project would be consistent with the site's Medium Density Residential designation and would comply with applicable policies set forth by the General Plan. As such, the project would not result in impacts beyond what were identified in the General Plan.

Based on the above, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and a **less-than-significant** impact would occur.

- g. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS. As noted therein, according to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program, the project site is located within a Local Responsibility Area (LRA).²⁶ CAL FIRE has determined that the City does not contain Very High Fire Hazard Severity Zones (FHSZs) in the City's LRA. Furthermore, the project site is located in a primarily developed area of the City, and the project would be consistent with what was anticipated for the site in the City's General Plan. In addition, PFD Station 3 is approximately 0.8-mile west of the site which would facilitate emergency response time to the project site. Finally, through development of the project, current on-site sources of fuel, such as undeveloped grassy areas and various trees, would be removed, thereby reducing the potential threat of wildland fire hazards. Therefore, the project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a **less-than-significant** impact would occur. Please also refer to Section XX, Wildfire, of this IS.

²⁵ City of Petaluma. *City of Petaluma Emergency Operations Plan*. March 2022.

²⁶ California Department of Forestry and Fire Protection. *FHSZ Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2022.

X. HYDROLOGY AND WATER QUALITY. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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;	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a,ci, ciii. With respect to potential impacts related to degradation of surface or groundwater quality, project construction activities such as grading, excavation, and trenching would result in the disturbance of on-site soils. The exposed soils would have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. As discussed in Section VII, Geology and Soils, of this IS, the project would be subject to the NPDES Construction General Permit, as the project would disturb approximately 4.56 acres. As part of compliance with the Construction General Permit, the project would be required to prepare a SWPPP, incorporating BMPs or equivalent measures designed to control surface runoff and erosion, retain sediment on-site, and prevent pollution of site runoff during the period in which preconstruction- and construction-related grading and/or soil storage occur, and before final improvements or permanent structures are completed. Through compliance with the NPDES Construction General Permit, the project would not result in substantial erosion or siltation on- or off-site during project construction.

After project construction activities are completed, impervious surfaces on the site could contribute incrementally to the degradation of downstream water quality during storm events. During the dry season, vehicles and other urban activities could release contaminants onto impervious surfaces, where they would accumulate until the first storm event. During the initial storm event, or first flush, the concentrated pollutants would be transported through stormwater runoff from the site to the Creek and eventually further

downstream. Typical urban pollutants that would likely be associated with the project would include sediment, household pesticides, oil and grease, nutrients, metals, bacteria, and trash. Runoff could also cause soil erosion if not properly addressed and provide a more lucrative means of transport for pollutants to enter the waterways. In such an event, the project could violate water quality standards or waste discharge requirements or degrade surface water quality, and a potentially significant impact could occur.

With respect to potential impacts related to site's existing drainage pattern, although the project site is currently developed with two existing residences, associated outbuildings, and paved and graveled driveways, the majority of the site consists of pervious surfaces such as undeveloped land covered in grasses, landscaped areas, and a small orchard. Development of the project would introduce new impervious surfaces associated with the proposed dwelling units, such as rooftops and paved driveways, as well as impervious surfaces associated with the internal looped street, sidewalks, and internal pathway system. Therefore, the project would introduce new impervious surfaces, which could substantially alter the existing drainage pattern of the site. Therefore, a **potentially significant** impact could occur.

Further analysis of the above potential impacts will be included in the Hydrology and Water Quality chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

- b.e. The City of Petaluma's central and eastern lands are situated above the Petaluma Valley Groundwater Basin, as identified by the California Department of Water Resources (DWR) Bulletin 118, published in 2018. The State adopted the Sustainable Groundwater Management Act (SGMA) in 2014 that called for the creation of local Groundwater Sustainability Agencies (GSAs) to develop and implement Groundwater Sustainability Plans (GSPs) for the long-term management of a healthy and functioning groundwater resource. In 2018, the Petaluma Valley Groundwater Sustainability Agency (PVGSA) was formed from representative government agencies, including the City of Petaluma, to begin assessing baseline conditions, defining sustainability for the basin, and developing a GSP and corresponding projects.

The PVGSA finalized the GSP in December 2021 and submitted the plan to DWR in January 2022.²⁷ The GSP includes six sustainability indicators that measure conditions and activities potentially leading to unsustainable groundwater use, including chronic lowering of groundwater levels, reduction in groundwater storage, sea water intrusion, reduction of storage, land subsidence, degraded groundwater quality, and surface water degradation of water quality, subsidence, and depletion. As part of ensuring that projects within the GSP area do not result in unsustainable groundwater use, the GSP additionally includes annual monitoring of the aforementioned six criteria, data evaluation, and reporting requirements. The GSP, which establishes a standard for sustainability of groundwater management and use and determines how the basin will achieve the standard by 2042, incorporates applicable policies set forth in the City's General Plan. The project is consistent with the site's Medium Density Residential designation and would comply with applicable policies set forth by the General Plan. As such, the project would not conflict with or obstruct implementation of the GSP.

²⁷ Petaluma Valley Groundwater Sustainability Agency. *Groundwater Sustainability Plan Petaluma Valley Groundwater Basin*. December 2021.

Finally, the City's water supply is sourced from the Russian River Water System and occasionally supplemented with local groundwater. As such, the project would not rely primarily on groundwater.

Water from the Russian River Water System is obtained through the Petaluma Aqueduct by way of a contract with Sonoma Water (formerly Sonoma County Water Agency). The City's Water Resource and Conservation Division (WR&C) provides municipal water service to a population of 64,251, and therefore, must comply with the Urban Water Management Plan Act, which requires the preparation of an Urban Water Management Plan (UWMP) every five years. As discussed further in Section XIX, Utilities and Service Systems, of this IS, pursuant to Table 7-2 of the City of Petaluma 2020 UWMP, the City anticipates meeting its projected demand in every normal year, from 2025 through 2045.²⁸ According to Table 7-3 of the 2020 UWMP, the City anticipates a surplus of supply during a single dry year in 2025; however, in 2030, 2035, 2040, and 2045, the City expects shortfalls of 1,112 acre-feet (AF), 1,201 AF, 1,332 AF, and 1,485 AF, respectively. Based on Table 7-4 of the 2020 UWMP, the City anticipates meeting its projected demand in every year from 2025 to 2045 in multiple dry year scenarios. Although the City could experience a shortfall of water supply during single dry year scenarios from 2030 to 2045, the City's Water Shortage Contingency Plan (WSCP) contains the City's strategic plan in preparation for and response to water shortages, including the water shortage stages and associated actions that would be implemented in the event of a water supply shortage. As such, through implementation of the City's WSCP during shortfalls, the City would have sufficient supplies to serve demand within the City, including demand generated by the project.

Based on the above, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of the GSP. Therefore, a **less-than-significant** impact would occur.

- cii,civ, The project site is within a SFHA currently designated by FEMA as Zone AE. Zone AE is defined by FEMA as an area within the 100-year floodplain. Flood events within the 100-year floodplain have a one percent chance of being equaled or exceeded in any given year. Pursuant to the City's General Plan EIR, substantial flooding has historically occurred in Petaluma when a series of closely spaced storms have moved through the Petaluma River watershed and prolonged high flows in tributary creeks, which include the Creek.
- d.

Due to the site's proximity to the Creek and location with Zone AE, depending on the severity of a potential storm event, the introduction of new impervious surfaces within the project site could result in an increased rate or amount of surface runoff, resulting in flooding on- or off-site, if the drainage management features that would be implemented as part of the project do not maintain post-project flows at the same rate and volume as pre-project flows. Similarly, post-project flows in excess of pre-project flows would have the potential to contribute runoff that exceeds the capacity of the City's storm drain system. Local modeling provides evidence that the project site is outside of the 100-year floodplain and further site-specific floodplain analysis will be included in the EIR. However, absent confirmation of the project site's elevation, flooding impacts could occur.

Furthermore, the project would include the placement of 90 CY of net fill on the banks of the Creek as part of development of the abutment fill slopes, including 78 CY placed below

²⁸ City of Petaluma. 2020 Urban Water Management Plan. June 2021.

the 100-year floodplain base flood elevation. Because placement of fill on the banks of the Creek would displace waters that typically gathers in the floodplain, development of the off-site multi-use pathway and bridge connection could result in downstream water surface elevations, which could induce off-site flooding in downstream areas.

Based on the above, the project could substantially increase the rate or amount of surface runoff in a manner that results in flooding on- or offsite; impedes or redirects flood flows; or risks release of pollutants due to project inundation in a flood hazard zone. Thus, a ***potentially significant*** impact could occur.

Further analysis of the above potential impacts will be included in the Hydrology and Water Quality chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

XI. LAND USE AND PLANNING.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

- a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. The project site is currently developed with two existing single-family residences, several associated outbuildings, landscaped areas, a small orchard in the northeast corner, and paved and graveled areas associated with the driveways to the residences.

Implementation of the project would be consistent with the General Plan land use designation for the site. The project would result in the construction of 62 dwelling units, site improvements, and off-site improvements. The project would be consistent with the uses allowed in the Medium Density Residential land use designation and the R4 zoning district’s permitted uses. Pursuant to the City’s General Plan, the Medium Density Residential designation provides for a variety of dwelling types, including single-family and multifamily housing, and allows for a density ranging from 8.1 to 18.0 du/ac. The project would result in a density of 15.22 du/ac. In addition, single-family and multifamily residences are both permitted uses within the R4 zone. The proposed dwelling units would be required to be designed in accordance with the R4 Zone Development Standards set forth in Table 4.9 of IZO Section 4.040, including the City’s standards for lot size, setbacks, and height limits. The City’s existing roadway system would not be modified by the project. Additionally, the project would include sidewalk improvements along portions of the new internal looped private street and would construct an off-site public multi-use pathway with a bridge connection over the Creek to increase pedestrian connectivity in the project area.

Therefore, the project would be a continuation of the surrounding community and would not isolate an existing land use. As such, the project would not physically divide an established community, and a **less-than-significant** impact would occur.

- b. The CEQA Guidelines require an EIR to discuss any inconsistencies between a project and applicable general plans, specific plans, and regional plans (Guidelines Section 15125[d]). The General Plan Guidelines published by the Governor’s Office of Planning and Research defines consistency as, “An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment.” Therefore, the standard for analysis used in this IS is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). The determination that the project is consistent or inconsistent with the City of Petaluma General Plan policies or other plans and policies is ultimately the decision of the City of Petaluma decisionmakers. Furthermore, although CEQA analysis may identify some areas of general consistency with City policies, the City has the ability to impose additional requirements or conditions of approval on a project, at the time of its approval, to bring a project into more complete conformance with existing policies.

As discussed throughout this IS, the project would be generally consistent with General Plan policies adopted for the purpose of avoiding or mitigating environmental effects. Pursuant to Section I, Aesthetics, of this IS, the proposed dwelling units would be located beyond the 50-foot setback that applies to new development adjacent to the Creek, which would be consistent with Petaluma General Plan Policy 4-P-1, which prohibits development from occurring within 50 feet of any tributary of the Petaluma River. As discussed in Section II, Agriculture and Forestry Resources, of this IS, the loss of valuable agricultural lands would be considered a physical environmental impact. However, as demonstrated above, the project site is designated entirely as “Urban and Built-up Land,” and, therefore, would not result in the conversion of Farmland to non-agricultural use. As such, the project would not conflict with General Plan Policy 3-P-8, which requires the City to recognize the value of, and protect the operation of, active river-dependent and agricultural-support uses located within the City.

Additionally, as discussed in Section III, Air Quality, of this IS, the BAAQMD’s BCMMs would be required by the City as project conditions of approval. The BCMMs include, but are not limited to, requirements that minimize idling times and mandate that construction equipment be maintained and properly tuned in accordance with manufacturer’s specifications. Through compliance with the BAAQMD BCMMs, the project would be consistent with General Plan Policy 4-P-16, which requires the reduction of combustion emissions during construction through maintenance of construction equipment in good condition and minimization of idling times. As discussed in Section VII, Geology and Soils, of this IS, the proposed buildings would be properly engineered in accordance with the CBSC, which includes engineering standards appropriate for Site Design Category D structures, such as the proposed dwelling units. Therefore, the project would be consistent with General Plan Policy 10-P-1, which requires that risks of property damage and personal injury posed by natural hazards be minimized. As discussed in Section XIII, Noise, of this IS, with implementation of Mitigation Measure XIII-1, the project would comply with applicable provisions of the Petaluma IZO during project construction and would not exceed applicable noise standards during project operation. Thus, the project would be consistent with General Plan Policy 10-P-3, which requires that the City protect public health and welfare by eliminating or minimizing the effects of existing noise problems and by minimizing the increase of noise levels in the future.

The General Plan includes other policies adopted for the purposes of avoiding environmental effects, some of which pertain to the technical issues that will be evaluated in the EIR, namely Biological Resources, Greenhouse Gas Emissions, Hydrology and Water Quality, and Transportation. For example, pursuant to Section IV, Biological Resources, of this IS, the Biological Resources chapter of the Creekwood Housing Development Project EIR will include an analysis of potential impacts to protected species, given the proximity of the project site to the Creek and its riparian corridor. As set forth in Section VIII, Greenhouse Gas Emissions, of this IS, because the project would contribute to increases of GHG emissions that are associated with global climate change during construction of the proposed residences, site improvements, and off-site improvements, as well as contribute to increased GHG emissions through new vehicle trips, the Greenhouse Gas Emissions chapter of the Creekwood Housing Development Project EIR will evaluate the project’s consistency with applicable plans, policies, and/or regulations adopted for the purpose of reducing GHG emissions. Furthermore, due to the site’s proximity to the Creek and SFHA designation, the Hydrology and Water Quality chapter of the Creekwood Housing Development Project EIR will evaluate the project’s potential to result in flooding impacts and impacts to the existing drainage pattern of the site.

Based on the above, the project would not 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, and a ***less-than-significant*** impact would occur.

XII. MINERAL RESOURCES.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

Discussion

a,b. Pursuant to the City of Petaluma General Plan EIR, the General Plan planning area does not contain mineral resources that would be affected by development facilitated by buildout of the General Plan in accordance with the General Plan Land Use Map.²⁹ The project would be consistent with the uses allowed within the Medium Density Residential land use designation. As such, the project would not result in impacts beyond those identified in the General Plan EIR, and **no impact** would occur.

²⁹ City of Petaluma. *City of Petaluma General Plan 2025 Environmental Impact Report* [pg. 4-6]. February 2008.

XIII. NOISE.

Would the project result in:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

- a. The following is a discussion on the existing noise environment of the project site and surrounding vicinity, as well as an evaluation of the project’s construction and operational noise levels. The discussion is based on a Noise and Vibration Assessment (Noise Assessment) prepared for the project by Illingworth & Rodkin, Inc. (see Appendix D of this IS).³⁰

The following terms are referenced in the sections below:

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to decibels (dB) in this section will be A-weighted unless otherwise noted;
- Day-Night Average Level (DNL or L_{dn}): The average sound level over a 24-hour day, with a +10 dB weight applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours;
- Average or Equivalent Sound Level (L_{eq}): L_{eq} is the average sound level over the period of measurement;
- Maximum Sound Level (L_{max}): L_{max} represents the highest noise level measured;
- Community Noise Equivalent Level (CNEL): CNEL is the weighted average noise level over a continuous 24-hour period with a +5.0 dB weight applied during evening hours (7:00 PM to 10:00 PM) and a +10 dB weight applied during nighttime and morning hours (10:00 PM to 7:00 AM); and
- L_1 , L_{10} , L_{50} , and L_{90} : The A-weighted noise levels that are exceeded one percent, 10 percent, 50 percent, and 90 percent of the time, respectively, during the measurement period.

Existing Noise Environment

The existing noise environment at the project site results primarily from vehicular traffic on Casa Grande Road. Other sources of noise in the project area include residential and educational uses, seasonal sounds from water flows in the Creek and the associated

³⁰ Illingworth & Rodkin, Inc. *Creekwood Residential Development Noise and Vibration Assessment, 270-280 Casa Grande Road, Petaluma, California.* August 15, 2022.

riparian habitat, overhead noise from general aviation aircraft associated with the Petaluma Municipal Airport, and noise generated by activities associated with the Casa Grande High School campus. To quantify the general existing ambient noise environment within the project vicinity, the Noise Assessment conducted long-term (72-hour) and short-term (10-minute) ambient noise level measurements between January 4 and January 7, 2022. The monitoring sites are shown on Figure 14. The long-term noise measurement sites are identified as LT-1 and LT-2, and the short-term noise measurement sites are identified as ST-1 through ST-3. The results of the short-term measurements are shown in Table 8.

Table 8							
Summary of Short-Term Noise Measurements, dBA							
Site	L_{max}	L₁	L₁₀	L₅₀	L₉₀	L_{eq}	CNEL¹
ST-1	58	52	49	48	47	48	47
ST-2	59	52	47	44	42	45	45
ST-3	57	56	53	50	46	50	50

¹ CNELs were estimated by correlation to the corresponding measurements at LT-1 and LT-2.

Source: Illingworth & Rodkin, Inc., 2022.

Noise Standards and Significance Criteria

Pursuant to Appendix G of the CEQA Guidelines, a project would be considered to result in significant noise impacts if noise levels would conflict with adopted environmental standards or plans or if noise generated by a project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. According to the Noise Assessment, a substantial permanent noise increase would occur if the noise level increase resulting from a project is 4.0 dBA CNEL, as established by the Petaluma General Plan. A substantial temporary noise level increase would occur where noise from construction activities exceeds 60 dBA L_{eq} and the ambient noise environment by at least 5.0 dBA L_{eq} at adjacent land uses in the project vicinity for a period of one year or more.

Project Construction Noise

During the construction of the project, heavy equipment would be used for site improvements, such as installation of utilities, excavation of foundations, building construction, paving, and landscaping. The hauling of excavated material and construction materials would generate truck trips on local roadways. The project would also include off-site construction of a multi-use path and installation of an off-site bridge over the Creek to connect to the existing trail to the east of the Creek, which would involve cut and fill work to level and bring the path on both sides of the Creek to that of the existing path, installation of concrete embankments, and installation of the bridge with a crane. Standard construction equipment, such as graders, backhoes, loaders, and trucks, would be used on-site. Typical noise levels generated by construction activities at a distance of 50 feet from the noise source would range between 83 and 84 dBA L_{eq} for ground-clearing activities; 88 and 89 dBA L_{eq} for excavation activities; 78 and 88 dBA L_{eq} for foundations; 79 and 87 dBA L_{eq} for building construction; and 84 and 89 dBA L_{eq} for finishing.

The construction of the project would generate noise and would temporarily increase noise levels at adjacent receivers. Potential noise impacts resulting from construction would depend on the noise generated by various pieces of construction equipment operating on-site, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors.

Figure 14
Noise Measurement Sites



The proposed construction activities would be carried out in stages. During each stage, a different mix of equipment would be operating. Construction noise levels would vary by stage and vary within stages based on the amount of equipment in operation and location where the equipment is operating.

Pursuant to Table 6 of the Noise Assessment, typical construction noise levels at a reference distance of 50 feet from the source would range from 65 to 88 dBA. The nearest existing sensitive receptors are the residences located 40 to 60 feet from where proposed construction activities would occur. Site work activities during project construction at such distances would range from 73 to 90 dBA, with an average level of 82 dBA. Building construction activities at such distances would range from 63 to 90 dBA with an average level of 77 dBA. Due to spherical spreading loss, which results in a reduction of 6.0 dB per doubling of distance between the noise source and the receptor, the noise levels produced during most of the proposed construction activities, which would occur at distances of 300 feet or more from adjacent noise-sensitive uses, would produce average noise levels of 66 dBA or less during site work activities and 61 dBA or less during home building activities.

According to the Noise Assessment, a review of the proposed construction schedule indicates that on-site project construction activities would require 19 months to complete. In addition, the construction of the off-site multi-use path and bridge would require a week or less to complete. Based on such a timetable and the consideration that newly completed intervening homes would provide some degree of noise attenuation at surrounding existing residences, the construction noise levels at the various sensitive receptor locations would not exceed 60 dBA L_{eq} for a period of greater than a year. As discussed above, a substantial temporary noise level increase would occur where noise from construction activities exceeds 60 dBA L_{eq} and the ambient noise environment by at least 5.0 dBA L_{eq} at adjacent land uses in the project vicinity for a period of one year. Thus, the impact would not be considered significant.

In addition, pursuant to IZO Section 21.040, construction activities are restricted to the hours of 7:00 AM to 10:00 PM, Monday through Friday, and 9:00 AM to 10:00 PM on Saturday, Sunday, and State, federal and local holidays. The project would be required to comply with the foregoing construction times as part of compliance with the Petaluma IZO. Furthermore, with incorporation of standard noise control measures, such as locating stationary noise-generating equipment as far as possible from adjacent residential receivers and storing heavy equipment on-site to minimize the need for extra heavy truck trips, noise generated during the project construction would be reduced further.

However, without requirements to ensure that project construction activities incorporate standard noise control measures, temporary noise level increases would not be reduced to the maximum extent feasible. Thus, the project could generate a substantial temporary increase in ambient noise levels in the project vicinity in excess of applicable standards, and a significant impact could occur.

Project Operational Noise

The project would result in the development of new residential uses adjacent to the existing Casa Grande Senior Apartments to the north and the under-construction Casa Grande Subdivision to the south. Additionally, existing residential uses are located approximately 240 feet to the south and classroom buildings at Casa Grande High School are located 300 feet from the project site. The occupation and use of the proposed

residences are expected to result in typical noises associated with residential development, including voices of the new residents, home maintenance activities, barking dogs, and children. HVAC and other mechanical equipment associated with the project would also add noise to the existing environment.

Based on noise measurements completed at similar projects, the Noise Assessment found that the outdoor condensing units at the proposed residences could produce constant sound levels of 47 to 50 dBA L_{eq} at a distance of 50 feet from the noise source and could operate continuously during both daytime and nighttime hours. Considering the distances to the adjacent residential uses, noise generated by the proposed HVAC equipment would be well below the limit established by the City of Petaluma Noise Ordinance, which is 60 dBA L_{eq} at the closest adjacent residences. Additionally, as discussed above, in accordance with the Petaluma General Plan, a substantial noise increase would occur if the noise level increase resulting from a project is 4.0 dBA CNEL or more. Although noise resulting from the occupation of the new residences could noticeably change the noise environment in some adjacent residential areas, such noise is not expected to increase noise levels in any surrounding areas by 4.0 dBA or more and the noise associated with the proposed residences would not be incompatible with the surrounding land uses.

Based on the above, noise associated with operation of the proposed residences would not generate a substantial permanent increase in ambient noise levels in the project vicinity in excess of applicable standards, and a less-than-significant impact would occur.

Project Traffic Noise

The project would result in the development of 62 new dwelling units, which would increase traffic on roadways in the project vicinity. A significant impact from project-generated traffic noise would occur if traffic would substantially increase noise levels at sensitive receivers in the project vicinity. Pursuant to the Noise Assessment, a significant impact would occur if the project traffic on area roadways resulted in a noise level increase of 4.0 dBA CNEL or more.

Pursuant to Focused Traffic Study prepared for the project by W-Trans, the project would generate an average of 522 trips per day, including 38 trips during the AM peak hour and 49 during the PM peak hour. To cause a 4.0 dBA increase in noise along area roadways, the project would have to generate enough traffic to more than double current roadway volumes. Based on traffic volumes observed during the site noise surveys, the Noise Assessment determined that the number of traffic trips generated by the project would not double current roadway volumes.

Based on the above, noise associated with traffic generated by the proposed residences would not generate a substantial permanent increase in ambient noise levels in the project vicinity in excess of applicable standards, and a less-than-significant impact would occur.

Conclusion

Based on the above, although noise associated with operation of the proposed residences and traffic generated by residents would not generate a substantial permanent increase in ambient noise levels in the project vicinity, without requirements to ensure that project construction activities incorporate standard noise control measures, temporary noise level increases would not be reduced to the maximum extent feasible. Thus, the project could

generate a substantial temporary increase in ambient noise levels in the project vicinity in excess of applicable standards, and a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impacts to a *less-than-significant* level.

XIII-1 *The following criteria shall be included in the Improvement Plans. Exceptions to allow expanded construction activities shall be reviewed on a case-by-case basis, as determined by the Community Development Director.*

- *Limit construction hours to between 8:00 AM and 5:30 PM, Monday through Friday, and between 9:00 AM and 5:00 PM on Saturday. Construction activities shall be prohibited on Sundays and State, federal and local holidays;*
- *High noise-producing activities, such as excavation and grading and construction finishing, shall only occur between the hours of 8:00 AM and 5:00 PM to minimize disruption at adjacent noise sensitive uses;*
- *Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment;*
- *Locate stationary noise-generating equipment (e.g., compressors) as far as possible from adjacent residential receivers;*
- *Acoustically shield stationary equipment located near residential receivers with temporary noise barriers;*
- *Utilize "quiet" air compressors and other stationary noise sources where technology exists;*
- *The project contractor shall implement appropriate additional noise-reduction measures that include shutting off idling equipment after five minutes (as feasible) and notifying adjacent residences (at least one time) in advance of construction work;*
- *Construction workers; radios shall be controlled to not exceed ambient noise levels beyond the limits of the project site boundaries;*
- *Heavy equipment, such as paving and grading equipment, shall be stored on-site whenever possible to minimize the need for extra heavy truck trips on local streets;*
- *Two weeks prior to the commencement of construction, notification in writing shall be provided to residents within 500 feet of the project site and if during the school year, officials at the Casa Grande High School campus, disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period; and*
- *The project contractor shall designate a "disturbance coordinator" responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem.*

- b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 9, which was developed by Caltrans, shows the vibration levels that would normally be required to result in damage to structures or annoyance, respectively, from transient and continuous vibration. As shown in the tables, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

Table 9 Guideline Vibration Damage Potential Threshold Criteria		
Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception, possibility of intrusion.	Vibration unlikely to cause damage of any type.
0.08	Vibrations readily perceptible.	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected.
0.10	Level at which continuous vibrations begin to annoy people.	Virtually no risk of architectural damage to normal buildings.
0.20	Vibrations annoying to people in buildings.	Threshold at which there is a risk of architectural damage to normal dwellings, such as plastered walls or ceilings.
0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations.	Vibration at this level would cause architectural damage and possibly minor structural damage.
Source: Illingworth & Rodkin, Inc., 2022.		

The project would only cause elevated vibration levels during construction, as the project would not involve any uses or operations that would generate substantial groundborne vibration. Construction activities would include site preparation work such as grading and the installation of utilities, foundation work, and new building framing. Construction techniques that generate the highest vibration levels, such as impact or vibratory pile driving, are not expected as part of the project. Construction activities would generally occur at distances of 200 feet or more from the nearest residential uses, but activities near the northern project perimeter could occur at distances as close as 60 feet from existing senior residential units and activities near the southern project perimeter could occur at distances as close as 40 feet from the single-family homes currently under construction to the south. Project construction activities such as drilling, the use of jackhammers, rock

drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity of such activities. Building framing, exterior and interior finishing, and landscaping activities are not anticipated to be sources of substantial vibration. Construction activities could extend over several construction seasons, but construction vibration would not be substantial for most of the time, except during vibration-generating activities.

Table 10 presents vibration source levels for typical construction equipment at distances of 40 and 60 feet. Jackhammers typically generate vibration levels of 0.017 to 0.009 PPV in/sec, drilling typically generates vibration levels of 0.044 to 0.024 PPV in/sec, and vibratory rollers generate vibration levels of 0.104 to 0.056 PPV in/sec at distances of 40 to 60 feet. Based on such levels, construction vibration levels would be well below the 0.20 in/sec PPV damage criteria for architectural damage to structures at the closest residential structures.

Table 10		
Vibration Source Levels for Construction Equipment		
Equipment	PPV at 40 Feet (in/sec)	PPV at 60 Feet (in/sec)
Clam Shovel Drop	0.100	0.054
Hydromill (Slurry Wall) in Soil	0.004	0.008
Hydromill (Slurry Wall) in Rock	0.008	0.017
Vibratory Roller	0.104	0.056
Hoe Ram	0.044	0.024
Large Bulldozer	0.044	0.024
Caisson Drilling	0.044	0.024
Loaded Trucks	0.038	0.020
Jackhammer	0.017	0.009
Small Bulldozer	0.004	0.004
<i>Source: Illingworth & Rodkin, Inc., 2022.</i>		

In areas where vibration would not be expected to cause structural damage, vibration levels may still be perceptible. However, as with any type of construction, such phenomenon would be anticipated and would not be considered significant given the intermittent and short duration of the phases that have the highest potential of producing vibration (i.e., jackhammers and vibratory rollers). By use of administrative controls such as notifying adjacent land uses of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby residences, perceptible vibration could be kept to a minimum and, as such, would not result in a significant impact with respect to perception.

Based on the above, project operation would not include uses that would involve elevated vibration levels, and project construction would not generate excessive groundborne vibration or groundborne noise levels at the nearest existing sensitive receptors. Therefore, the project would result in a **less-than-significant** impact.

- c. The nearest airport to the site is the Petaluma Municipal Airport, which is located approximately 0.85-mile northwest of the site. As such, the project site is located within two miles of a public airport. However, pursuant to Figure 3.9-2 of the City’s General Plan EIR, the project site is not located within any of the airport’s CNEL noise contours, which do not extend to South Ely Boulevard and, therefore, do not reach the project site.

Therefore, although noise generated by the Petaluma Municipal Airport could be experienced at the project site, such noise levels would be at a less-than-significant level.

Based on the above, the project would not expose people residing or working in the project area to excessive noise levels, and a ***less-than-significant*** impact would occur.

XIV. POPULATION AND HOUSING.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a. As discussed in the City of Petaluma 2015-2023 Housing Element, as part of meeting the housing needs for anticipated population growth in the City, the ABAG Regional Housing Need Allocation (RHNA) for new construction in the City assigned a total of 745 new units, including 103 new low-income units and 121 new moderate-income units (see Table 2 of the Housing Element).³¹ As part of meeting the RHNA requirements, the City’s Housing Element identified residential land inventory opportunity sites, including Site #11, which encompasses 270 and 280 Casa Grande Road and also contains 240 and 250 Casa Grande Road. In total, the Housing Element estimated that Site #11 has a capacity for 92 units.

The project would include the development of 62 dwelling units; street, utility, and landscaping improvements; and an off-site public multi-use pathway and bridge connection. Development of the project could result in direct population growth by constructing new homes. Using the General Plan’s average of 2.7 persons per household estimate for the City population, the project could generate a maximum of 168 new residents (2.7 persons per household x 62 dwelling units = 167.4 new residents). The project would be consistent with the Medium Density Residential land use designation and the R4 zoning district’s permitted uses and would contribute to the City’s ability to meet its RHNA requirements, particularly as the project would be developed in accordance with IZO Section 3.040 and reserve at least 15 percent of the new units as BMR units.

Pursuant to the City’s General Plan, the Medium Density Residential designation provides for a variety of dwelling types, including single-family and multifamily housing, and allows for a density ranging from 8.1 to 18.0 du/ac. The project would result in a density of 15.22 du/ac. In addition, single-family and multifamily residences are both permitted uses within the R4 zone. Furthermore, the project would be developed in an urban area, with existing multifamily residences to the north; a single-family residential neighborhood to the east, across from the Creek; the under-construction Casa Grande Subdivision to the south; and the Casa Grande High School and Crinella Park are located to the west, across Casa Grande Road from the project site. Finally, the project would not involve extension of major infrastructure. New utility infrastructure associated with the project would be sized to accommodate only the proposed residential uses.

Based on the above information, the project would not induce substantial unplanned population growth either directly or indirectly, and a **less-than-significant** impact would occur.

³¹ City of Petaluma. *City of Petaluma 2015-2023 Housing Element*. Revised November 19, 2018.

- b. The project site is currently developed with two existing single-family residences, several associated outbuildings, landscaped areas, a small orchard in the northeast corner, and paved and graveled areas associated with the driveways to the residences. Although the project would include demolition of the on-site residence at 280 Casa Grande Road, the project would include a 0.637-acre Remainder that would not be a part of the proposed residential community. The purpose of the Remainder is to allow the property owner of 270 Casa Grande Road to retain their residence and continue to live on the property. As such, the project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, a ***less-than-significant*** impact would occur.

XV. PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

With respect to public services, the relevant CEQA threshold is whether new or physically altered facilities are needed to meet response times or other performance objectives, the construction of which could cause environmental impacts. The discussions below evaluate the project’s potential to necessitate such facilities.

- a. The PFD provides fire, rescue, and emergency medical services to the City of Petaluma as well as to a 160-square-mile area of unincorporated Sonoma County surrounding the City. The PFD responds to structural and wildfires, emergency medical service requests, and hazardous/toxic spills in the City. In total, the PFD is comprised of 58 paid personnel on staff that work 48-hour rotating shifts. The minimum staffing for each shift is 15 personnel, which includes the staffing of three engines, one aerial ladder truck and two paramedic advanced life support ambulances.³² The PFD consists of three fire stations, the closest of which to the project site is Station 3, approximately 0.8-mile west of the site.

Pursuant to General Plan Policy 7-P-19, the PFD seeks to maintain a four-minute travel time for a total six-minute response time for emergencies within the City. Given the relatively short distance between Station 3 and the project site, the PFD would be able to respond to service calls from the site well within an acceptable time frame, consistent with Policy 7-P-19 (see Figure 3.4-2 of the General Plan EIR). In addition, pursuant to PMC Section 19.04.020, new development within the City is subject to the City’s Facilities Development Impact Fee. The purpose of the fee is to ensure that new development pays a fair share of the construction and acquisition costs associated with new or expanded public facilities (i.e., aquatic center, community center, fire suppression, law enforcement, library and public facilities, etc.). As such, revenues generated through the project’s payment of the City Facilities Development Impact Fee would pay the project’s fair share toward any new fire facilities deemed necessary by the City.

Finally, the City’s General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area in accordance with the General Plan Land Use Map to require fire protection in excess of the PFD’s staffing levels and facilities and concluded that with incorporation of applicable General Plan policies, a less-than-significant impact would occur. The project is consistent with the uses allowed within the Medium Density Residential land use designation and would be required to comply with

³² City of Petaluma. *Fire*. Available at: <https://cityofpetaluma.org/departments/fire/>. Accessed June 2022.

applicable General Plan policies and regulations set forth by the PMC. Therefore, the project would not result in impacts beyond those identified in the General Plan EIR. Thus, the project would not require the provision of new or physically altered fire protection facilities, the construction of which could cause environmental impacts, and a **less-than-significant** impact would occur.

- b. The PPD provides police services to the City. The PPD consists of a chief of police, deputy chief, four administration lieutenants, patrol services (managed by two lieutenants and comprised of two platoons) two full-time K-9 teams, a community services officer, and special services (including investigations and traffic teams, SWAT, hostage negotiations, and gang enforcement).³³ The police station is located at 969 Petaluma Boulevard North, approximately 2.6 miles west of the project site.

Pursuant to General Plan Policy 7-P-36, the City seeks to ensure that adequate police staff are available to provide rapid and timely response to all emergencies and maintain the capability to have minimum average response times; however, Policy 7-P-36 does not include a specific response time with which the PPD seeks to respond to calls. Responses by the police to calls are prioritized by urgency. In addition, as discussed, pursuant to PMC Section 19.04.020, new development within the City is subject to the City's Facilities Development Impact Fee. Revenues generated through the project's payment of the City Facilities Development Impact Fee would pay the project's fair share toward any new police facilities deemed necessary by the City.

Finally, the City's General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area in accordance with the General Plan Land Use Map to require law enforcement services in excess of the PPD's staffing levels and facilities and concluded that with incorporation of applicable General Plan policies, a less-than-significant impact would occur. The project is consistent with the uses allowed within the Medium Density Residential land use designation and would be required to comply with applicable General Plan policies and regulations set forth by the PMC. Therefore, the project would not result in impacts beyond those identified in the General Plan EIR. Thus, the project would not require the provision of new or physically altered law enforcement facilities, the construction of which could cause environmental impacts, and a **less-than-significant** impact would occur.

- c. The City of Petaluma is served by four elementary school districts, including the PCESD. All of the City's 10 secondary schools are under the oversight of the PJUHSD, which serves populations within and outside the City limits. The PJUHSD and PCESD operate under an umbrella agency called Petaluma City Schools (PCS). Within the City limits, PCS runs eight elementary schools, including two charter schools and an alternative school, two junior high schools (seventh through eighth grade), a community day school for seventh and eighth grades, and six high schools, including three small continuation schools and an alternative school. Petaluma also consists of two private elementary schools, a private high school, and two charter schools.

Although development of 62 new dwelling units would increase the student population within the City of Petaluma, the project would be required to pay developer fees set forth by the school districts in the City for new residential construction in the City. Proposition

³³ City of Petaluma. *Police Divisions*. Available at: <https://cityofpetaluma.org/police-divisions/>. Accessed September 2022.

1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any “legislative or adjudicative act involving the planning, use, or development of real property” (Government Code Section 65996[b]). Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be “full and complete mitigation.” As such, according to SB 50, the payment of the necessary school impact fees for the project would be full and satisfactory CEQA mitigation.

In addition, the General Plan EIR evaluated the potential for development facilitated by buildout of the planning area in accordance with the General Plan to generate additional elementary and secondary school enrollment above projected school capacity and concluded that with incorporation of applicable General Plan policies, a less-than-significant impact would occur. The project is consistent with the uses allowed within the Medium Density Residential land use designation and would be required to comply with applicable General Plan policies, regulations set forth by the PMC, and developer fees assessed by school districts in the City. Therefore, the project would not result in impacts beyond those identified in the General Plan EIR.

Based on the above, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 schools. Therefore, the project would result in a **less-than-significant** impact.

- d. The City of Petaluma contains 200.5 acres of City-owned parks, including 125.3 acres of community parks, 73 acres of neighborhood parks, and 2.2 acres of other park areas. Community parks serve a citywide population and typically include sports facilities, such as lighted fields, courts, swimming pools, recreation buildings, and other special-use facilities. Restrooms and off-street parking are generally provided. The largest community parks in the City are Lucchesi, Wisemen, and Prince parks. Neighborhood parks are devoted primarily to serving a small portion of the City, usually within walking and biking distance from residences. The parks are typically designed for nonorganized and unsupervised recreation activities. Play equipment, ball fields, open turf areas, and picnic tables may be provided; however, restrooms and off-street parking are generally not. Pocket parks are very small park sites (often less than one acre) providing tot lots and small-scale facilities to a localized area. The City contains approximately 2.2 acres of pocket parks, many of which are located within or near multifamily developments.

Pursuant to General Plan Policy 6-P-6, the City maintains a park standard of five acres per 1,000 residents. The project would include development of 62 dwelling units. Using the General Plan’s average of 2.7 persons per household estimate for the City population, the project could generate a maximum of 168 new residents (2.7 persons per household x 62 dwelling units = 167.4 new residents). Based on such an amount, the project would be required to include 0.84-acre of new parkland. The project does not include park acreage. However, pursuant to PMC Section 19.16.020, the project would be subject to the City’s Park Land Development Impact Fee. In addition, the project would be subject to the City’s Park Land Acquisition In-Lieu Fees set forth by PMC Section 20.34.100, which requires payment of fees commensurate with the amount of parkland required by Municipal Code Section 20.34.090. Revenues generated through the project’s payment of

the fees would pay the project's fair share toward any new park facilities deemed necessary by the City.

Based on the above, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 parks. Therefore, the project would result in a **less-than-significant** impact.

- e. The City of Petaluma owns and operates other recreational and cultural facilities, which offer recreational and educational services, as well as foster a sense of community identity and pride. The key City-owned recreational and cultural facilities include:
- City Hall;
 - Petaluma Community Center;
 - Jack Cavanaugh Recreation Center;
 - Petaluma Marina;
 - Petaluma Historical Museum/Library;
 - Petaluma Senior Center; and
 - Petaluma Adult/Senior Center.

As discussed above, pursuant to PMC Section 19.04.020, new development within the City is subject to the City's Facilities Development Impact Fee. Revenues generated through the project's payment of the City Facilities Development Impact Fee would pay the project's fair share toward any new recreational and cultural facilities deemed necessary by the City.

Finally, the City's General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area in accordance with the General Plan Land Use Map to require development of new recreational and cultural facilities and concluded that with incorporation of applicable General Plan policies, a less-than-significant impact would occur. The project is consistent with the uses allowed within the Medium Density Residential land use designation and would be required to comply with applicable General Plan policies and regulations set forth by the PMC. Therefore, the project would not result in impacts beyond those identified in the General Plan EIR.

Based on the above, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 other facilities. Therefore, the project would result in a **less-than-significant** impact.

XVI. RECREATION.

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a,b. As established by General Plan Policy 6-P-6, the City of Petaluma maintains a park standard of five acres per 1,000 residents. The project would include development of 62 dwelling units, which could result in a maximum of 168 new residents, which would necessitate 0.84-acre of new parkland. Pursuant to PMC Section 19.16.020, the project would be subject to the City’s Park Land Development Impact Fee. In addition, the project would be subject to the City’s Park Land Acquisition In-Lieu Fees set forth by PMC Section 20.34.100, which requires payment of fees commensurate with the amount of parkland required by Municipal Code Section 20.34.090. Revenues generated through the project’s payment of the fees would pay the project’s fair share toward any new park facilities deemed necessary by the City.

Based on the above, the project would not 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 or include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, the project would result in a ***less-than-significant*** impact.

XVII. TRANSPORTATION.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. The project would include internal street and frontage improvements, as well as a new off-site public multi-use pathway with a bridge connection over the Creek. The increase in population associated with the project would subsequently generate additional vehicle trips on local roadways. The addition of project-generated traffic has the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system. In addition, the increase in population would also increase the demand for bicycle, pedestrian, and transit facilities. Further evaluation is required in order to assess whether adequate capacity exists to support the additional demand for such facilities.

Based on the above, the project could result in a **potentially significant** impact related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Further analysis of the above potential impact will be included in the Transportation chapter of the Creekwood Housing Development Project EIR.

- b. Pursuant to Section 15064.3 of the CEQA Guidelines, analysis of vehicle miles travelled (VMT) attributable to a project is considered the most appropriate measure of transportation impacts for CEQA purposes. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

The project would generate new vehicle trips associated with the proposed residences. Should the future residents of the project require commutes to jobs located outside of the City, trip lengths associated with the project could be longer than the regional average. Given the increase in vehicle trips associated with the project, as well as the anticipated range in vehicle trip lengths, a **potentially significant** impact related to VMT could occur.

Further analysis of the above potential impact will be included in the Transportation chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

- c,d. Access to the project site would be provided by two new entries from Casa Grande Road (see Figure 5). From the two entry points, a new internal looped private street would extend eastward into the project site, providing access to all proposed dwelling units, as well as the existing residence at 270 Casa Grande Road. The proposed street would be comprised of two 10-foot-wide driving lanes along all segments.

Considering the limited number of proposed dwelling units and the access throughout the site that would be provided by the new internal street, emergency access is expected to be acceptable. In addition, roadway hazards are not anticipated. Nonetheless, the project would increase traffic in the vicinity of Casa Grande High School, which could result in an associated increase in traffic-related hazards or affect emergency access in the project area.

Without further evaluation, the project could result in a ***potentially significant*** impact related to an increase in hazards from design features or incompatible uses, or inadequate emergency access to the project.

Further analysis of the above potential impact will be included in the Transportation chapter of the Creekwood Housing Development Project EIR.

XVIII. TRIBAL CULTURAL RESOURCES.

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:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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).	<input type="checkbox"/>	×	<input type="checkbox"/>	<input type="checkbox"/>
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 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	×	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. As discussed in Section V, Cultural Resources, of this IS, the CRS similarly determined the site does not contain any recorded archaeological resources. In addition, as part of the CRS, a request was sent to the NAHC seeking information from the Sacred Lands File regarding the project site, which returned results indicating the site does not contain any known tribal cultural resources.

In compliance with AB 52 (PRC Section 21080.3.1), a project notification letter was distributed to the Federated Indians of Graton Rancheria on May 26, 2022. The Federated Indians of Graton Rancheria submitted a response on June 16, 2022 requesting formal consultation with the lead agency, and in response, the City, as the lead agency, initiated consultation with and met with the tribe on August 31, 2022.

Based on the consultation with Graton Rancheria, the possibility exists that construction of the project could result in a substantial adverse change in the significance of a tribal cultural resource. Thus, a **potentially significant** impact to tribal cultural resources could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XVIII-1 *To protect buried tribal cultural resources that may be encountered during ground disturbing activities, the project shall implement Mitigation Measure V-1.*

XIX. UTILITIES AND SERVICE SYSTEMS. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a-c. Brief discussions of the water, wastewater, stormwater drainage, electrical, natural gas, and telecommunications facilities that would serve the project are included below.

Water

The City's water supply is sourced from the Russian River Water System and occasionally supplemented with local groundwater. Water from the Russian River Water System is obtained through the Petaluma Aqueduct by way of a contract with Sonoma Water (formerly Sonoma County Water Agency). The City's WR&C provides municipal water service to a population of 64,251, and therefore, must comply with the Urban Water Management Plan Act, which requires the preparation of an UWMP every five years. Pursuant to Table 7-2 of the City of Petaluma 2020 UWMP, during a normal year, the City anticipates meeting its projected demand in every year, from 2025 through 2045.³⁴ According to Table 7-3 of the 2020 UWMP, the City anticipates a surplus of supply during a single dry year in 2025; however, in 2030, 2035, 2040, and 2045, the City expects respective shortfalls of 1,112 AF, 1,201 AF, 1,332 AF, and 1,485 AF, respectively. Based on Table 7-4 of the 2020 UWMP, the City anticipates meeting its projected demand in every year from 2025 to 2045 in multiple dry year scenarios.

Although the City could experience a shortfall of water supply during single dry year scenarios from 2030 to 2045, the City's WSCP contains the City's strategic plan in preparation for and response to water shortages, including the water shortage stages and associated actions that would be implemented in the event of a water supply shortage. During single dry water years, the City anticipates a supply reduction from Sonoma Water

³⁴ City of Petaluma. 2020 Urban Water Management Plan. June 2021.

for each year beginning in 2030, as described in Sonoma Water's 2020 UWMP. The City anticipates receiving the following percentages of a normal year supply from Sonoma Water during a single dry year scenario through 2045: 2025 (100 percent), 2030 (90.3 percent), 2035 (89.6 percent), 2040 (88.7 percent), and 2045 (87.7 percent). According to the City's 2020 UWMP, in the event of a single dry year that results in a deficit in water supply, the City would enact the 2020 WSCP based on supply shortage to reduce customer demand, and appropriate water shortage response actions would be taken to ensure demand does not exceed supply during a water shortage scenario. Such response actions would include demand reduction actions, including, but not limited to, public information campaigns, increased frequency of meter readings, water use surveys, rebates on plumbing fixtures and devices, rebates for turf replacement, water waste patrols, limiting landscape irrigation to specific times, and prohibiting potable water use for washing hard surfaces.

The analysis within the 2020 UWMP incorporated the adopted land uses within the City's General Plan as part of its evaluation. Considering that the project would be consistent with the site's Medium Density Residential land use designation, buildout of the project site with the proposed uses was captured in the water demand assumptions of the 2020 UWMP. As such, the project would not result in a shortfall beyond that identified in the 2020 UWMP and water shortage response actions set forth in the 2020 WSCP would address potential shortfalls in water supply that could occur through development of the project. Based on the above, with implementation of the WSCP during single dry year shortfall scenarios, the City would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years, and a less-than-significant impact would occur.

The project would be provided water service by the City of Petaluma through new connections to the existing water main in Casa Grande Road (Figure 7). Consistent with PMC Section 15.08.120 and the City of Petaluma Water System Design Guidelines, which require main extensions to be at a minimum diameter of eight inches, a new eight-inch water line would be extended into the project site within the ROW of the new internal private street. The proposed dwelling units would connect to the new eight-inch water line through new water laterals. In addition, pursuant to PMC Section 19.28.020, the project would be subject to the City's Water Capacity Fee, the revenues from which would help fund future construction of water facilities in the City's service area.

Based on the above, the project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects, and a less-than-significant impact would occur.

Wastewater Conveyance and Treatment

The project would be provided sanitary sewer conveyance service by the City of Petaluma through new connections to the existing sewer main in Casa Grande Road (Figure 7). Consistent with the City of Petaluma Sewer System Design and Construction Guidelines, a new eight-inch sewer line would be extended into the project site within the ROW of the new internal private street. The proposed dwelling units would connect to the new eight-inch sewer line through new sanitary sewer laterals. Pursuant to PMC Section 19.32.020, the project would be subject to the City's Wastewater Capacity Fee, the revenues from which would help fund future construction of sanitary sewer facilities in the City's service area.

With respect to the potential for the wastewater treatment provider to determine adequate capacity exists to serve the project's projected demand in addition to the provider's existing commitments, the Ellis Creek Water Recycling Facility treats all wastewater generated by the City of Petaluma and the unincorporated community of Penngrove. The collection system is comprised of approximately 195 miles of underground piping and nine pump stations. During the summer, effluent receives tertiary treatment and the recycled water is used for irrigation of agricultural lands, golf courses, City parks, schools, and landscaped areas of residential and commercial development. In the winter, secondary treated wastewater effluent is conveyed to the Petaluma River. The treatment capacity is approximately 6.7 million gallons per day (average dry weather flow).³⁵ Approximately five million gallons per day are treated under the existing wastewater generation condition, leaving approximately 1.7 million gallons in available treatment capacity. Based on the available capacity remaining at the City's treatment facility, the City's wastewater infrastructure and treatment facility are anticipated to be sufficient to accommodate the increased demand that would be generated by the project.

The General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to necessitate the need to expand wastewater treatment facilities, the construction of which could cause significant environmental effects and concluded that with compliance with applicable General Plan policies, a less-than-significant impact would occur. The project would comply with applicable General Plan policies. For instance, as discussed, the project would be subject to the City's Wastewater Capacity Fee, which would ensure the project contributes a fair share to fund future construction of sanitary sewer facilities in the City's service area. However, General Plan Policy 8-P-15 provides that as part of maintaining and, if necessary, expanding capacity at the Ellis Creek Water Recycling Facility, the City may require conditions of approval for all public and private development. The project would be required to comply with all conditions of approval adopted by the Petaluma City Council as part of project approval, including any related to wastewater facilities. Therefore, the project would be consistent with General Plan Policy 8-P-15. Considering that the project would be consistent with the site's Medium Density Residential land use designation and would be consistent with applicable General Plan policies, the project would not result in impacts beyond those identified in the General Plan EIR.

Based on the above, the project would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects, and the wastewater treatment provider which would serve the project would have adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments. Thus, a less-than-significant impact would occur.

Stormwater

Potential impacts related to water quality and development within the 100-year FEMA floodplain will be addressed in the Hydrology and Water Quality chapter of the of the Creekwood Housing Development Project EIR. With respect to the new storm drain infrastructure that would be implemented as part of the project, the project would include new on-site stormwater facilities to treat and hold back (i.e., "detain") stormwater runoff so that the amount of runoff from the developed site would not exceed the site's current runoff rates. The project site's stormwater facilities would be dispersed across five DMAs (see

³⁵ City of Petaluma. *Recycled Water Master Plan* [pg.IV-2]. June 2004.

Figure 8). DMAs 1 through 4 would encompass the Block 1 units and would each contain corresponding BRAs 1 through 4. DMA 5 would encompass the new internal street, Blocks 2 and 3 units, and BRA 5.

Within DMAs 1 through 4, runoff from impervious surfaces would be directed to grassy areas, where flows would be collected by inlets and conveyed by way of private storm drain lines to each DMA's BRA for retention and treatment. Following retention and treatment, flows would be metered and released to the Creek. In addition, a floodwater detention basin would be constructed immediately east of DMA 4 to accept surface flow from waters overtopping the Creek bank or backing up through the storm drain system. Similarly, within DMA 5, runoff would be directed to inlets installed in each dwelling unit's backyard area and to gutters installed along the new internal street. From the inlets and gutters, flows would be conveyed by way of new private storm drain lines to BRA 5 for retention and treatment. From BRA 5, treated flows would be metered to the Creek. All new storm drain infrastructure would be designed in accordance with the City's Storm Drain System Construction Standards.

The final drainage system design for the project would be subject to review and approval by Sonoma Water to confirm that the proposed drainage system for the project is consistent with applicable standards. Therefore, the project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and a less-than-significant impact would occur.

Electricity and Telecommunications

Electricity would be provided by PG&E and Sonoma Clean Power, a community choice program provider that sells electricity generated from renewable energy sources that is then delivered through PG&E's grid. Internet and telephone services would be provided by Comcast Xfinity or a similar service provider operating within the City. The project would not require major upgrades to, or extension of, existing infrastructure. Thus, impacts to electricity and telecommunications infrastructure would be less than significant. As noted previously, the project would not include the installation of natural gas infrastructure.

Conclusion

Based on the above information, the project would not require or result in the relocation or construction of new or expanded utility facilities, the construction or relocation of which could cause significant environmental effects. Additionally, the City would have sufficient water supplies to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years and adequate capacity to serve the project's projected wastewater services demand in addition to the City's existing commitments. Therefore, the project would result in a **less-than-significant** impact.

- d,e. Solid waste disposal services are provided to the City of Petaluma by Recology Sonoma Marin, a private company under contract with the City. Recology provides canisters to residences to dispose of garbage, green (plant waste) materials, and recycling. Following weekly curbside collection, Recology transports the canister contents to the Sonoma County solid waste transfer and disposal facilities, which are owned and operated by the Sonoma County Department of Transportation and Public Works. The County also helps maintain the Countywide Integrated Waste Management Plan (CoIWMP) jointly with the Sonoma County Waste Management Agency (SCWMA). Solid waste is disposed of at the

Central Landfill, located at 500 Mecham Road. Pursuant to the California Department of Resources Recycling and Recovery, the landfill has a cease operation date of June 1, 2043, a maximum permitted capacity of 32,650,000 CY, and a remaining capacity of 9,181,519 CY.³⁶ Given the remaining capacity available at the Central Landfill, solid waste generated by the proposed dwelling units would be accommodated at the disposal site.

The General Plan EIR evaluated the potential for development facilitated by buildout of the General Plan planning area to result in increased demand for solid waste disposal and concluded that through compliance with applicable General Policies, a less-than-significant impact would occur. The project is consistent with the project site's Medium Density Residential land use designation and would be consistent with policies set forth by the General Plan. For example, General Plan Policy 4-P-21 requires new residential uses to incorporate sufficient, attractive, and convenient interior and exterior storage areas for recyclables and green waste as part of reducing solid waste and increasing reduction, reuse, and/or recycling, in compliance with the CoWMP. Given that the project would be provided cannisters for green materials and recycling, the project would be consistent with General Plan Policy 4-P-21. In addition, all new development must also comply with the CALGreen Code, which requires diversion of at least 65 percent of construction waste from landfills. As such, the project would not result in impacts beyond those identified in the General Plan EIR.

Based on the above, given that the project is consistent with the project site's General Plan land use designation and would comply with applicable policies set forth in the General Plan, the project would not 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. The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, the project would result in a **less-than-significant** impact.

³⁶ California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details: Central Disposal Site (49-AA-0001)*. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1224?siteID=3621>. Accessed September 2022.

XX. WILDFIRE.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a-d. Pursuant to CEQA Guidelines Appendix G, the above questions are only relevant when a project’s location is within a State Responsibility Area (SRA) or Very High FHSZ. The project site is not located within land designated as either. Rather, according to CAL FIRE’s FHSZ Viewer, the project site is located within a LRA that is not designated as a Very High FHSZ.³⁷

Nevertheless, for informational purposes it is noted that the project would not conflict with the City’s Emergency Operations Plan. The City relies upon the County of Sonoma’s countywide evacuation map, which is used to help identify areas under threat either by fire, flood, earthquake, or power outage and includes zones for areas within the City of Petaluma, as well as areas in other cities and unincorporated portions of the County.³⁸ The map indicates any current evacuation warnings or orders. The project site is located in zone PTL015B. Implementation of the project would not result in any substantial modifications to the City’s existing roadway system, and thus, would not affect evacuation warnings or orders established by the countywide evacuation map.

In addition, the project site is not located on a substantial slope. Although the project site currently consists of undeveloped land covered in grasses, landscaped areas, and a small orchard, which could provide fuel sources in the event of a wildfire, development of the site with residential uses would reduce the risk of wildland fire to surrounding areas, because site improvements, such as roadways, driveways, and irrigated landscaping, would reduce readily combustible vegetation. Although the riparian corridor along the Creek would be largely maintained as part of the project, which would preserve existing sources of fuel, structures would not be constructed within the 50-foot setback from the top of the Creek bank, which would thereby prevent the placement of new structures immediately adjacent to such fuel sources. In addition, as discussed in Section VII,

³⁷ California Department of Forestry and Fire Protection. *FHSZ Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2022.

³⁸ City of Petaluma. *Emergency Evacuations*. Available at: <https://cityofpetaluma.org/emergency-evacuations/>. Accessed September 2022.

Geology and Soils, development of the project would not expose people or structures to significant risks related to landslides.

Furthermore, wildfire risks would not be anticipated to be exacerbated during project operation, as residential uses typically do not involve operational components that would increase the risk of wildfire. The project would be required to be designed in compliance with the California Fire Code, California Building Code, and the California Strategic Fire Plan. Finally, pursuant to PMC Section 17.20.050, the Fire Chief would maintain the right to enter the proposed dwelling units prior to occupation to inspect and determine if the provisions of the California Fire Code and all applicable laws or ordinances have been followed as part of the construction of the units.

Based on the above, regulations are in place to ensure that the project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	✘	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a. As discussed in Section IV, Biological Resources, of this IS, because the project would involve construction activities immediately adjacent to and within the Creek and its associated riparian corridor, development of the project has the potential to result in substantial adverse effects to special-status species, riparian habitats or other sensitive natural communities, and/or State or federally protected wetlands. Therefore, further analysis is required to ensure that the project would not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Without further analysis, the project could result in a **potentially significant** impact.

Further analysis of the above potential impact will be included in the Biological Resources chapter of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.

b,c. The project, in conjunction with other development within the City and surrounding region, could incrementally contribute to cumulative impacts in the project area. In particular, as discussed in Section VIII, Greenhouse Gas Emissions, of this IS, buildout of the project would contribute to increases of GHG emissions that are associated with global climate change during construction of the proposed residences, site improvements, and off-site improvements. In addition, during project operations, new vehicle trips associated with the future residents of the project would contribute to increases of GHG emissions associated with global climate change. In the absence of appropriate mitigation, the project could cause substantial adverse effects on human beings. As such, without further analysis, the project could result in a **potentially significant** impact.

Further analysis of the above potential impact will be included in the technical chapters of the 270 and 280 Casa Grande Road Creekwood Housing Development Project EIR.