Casa Grande

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PREPARED BY:
CITY OF PETALUMA
11 ENGLISH STREET
PETALUMA, CA 94952

October 2020

Casa Grande
CEQA ENVIRONMENTAL CHECKLIST AND INITIAL STUDY

Initial Study Checklist	
Project Title:	Casa Grande
Lead Agency:	City of Petaluma 11 English Street Petaluma, CA 94952
Contact Person and phone number:	Aaron Hollister, Senior Planner ahollister@cityofpetaluma.org 707-778-4422
Project Location:	240 & 250 Casa Grande Road, City Petaluma, Sonoma County, California Assessor's Parcel Number 017-040-020 & -059
Project Sponsor:	Doyle Heaton Falcon Point Associates, LLC c/o DRG Builders Casa Grande-Petaluma LP 3496 Buskirk Avenue #104 Pleasant Hill, CA 94523 925-939-3473
Property Owners:	Neal M. Carstensen Trust 250 Casa Grande Road Petaluma, CA 94954
General Plan Designation:	Medium Density Residential (8.1 to 18 units/acre); Open Space; Floodplain
Existing / Proposed Zoning:	R4 (Residential 4); Floodplain / PUD; Floodplain
Description of project:	The project proposes to demolish the existing single-family home and structures onsite and subdivide the 4.5-acre property into 36 residential lots and two common lots that will contain a bioretention basin and public right-of-way dedication, respectively. Each residential lot will contain a two-story, single-family residential structure. Thirty of the units will be detached, and six will be attached. Inclusionary units onsite consist of four attached and one detached unit. Eleven of the residential structures will contain an attached junior accessory dwelling unit integrated into the building envelope of each structure. The project requests rezoning from Residential (R4) to a Planned Unit District (PUD), a vesting tentative map for the subdivision of the property into 36 residential lots and two common lots and Site Plan and Architectural Review.
Surrounding land uses and setting; briefly describe the project's surroundings:	The project is located in southeastern Petaluma on the east side of Casa Grande Road, immediately west of Adobe Creek, south of Ely Boulevard South and north of South McDowell Boulevard. Adjacent land uses include undeveloped land to the north and detached single-family residences to the south and to the east across Adobe Creek. Casa Grande High School is located across Casa Grande Road to the west.

Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	Regional Water Quality Control Board (NPDES) Sonoma County Water Agency
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to PRC section 21080.3.1? If so, has consultation begun?	The Federated Indians of Graton Rancheria (FIGR) did not request consultation within the statutory timeframe provided by Public Resources Code §21080.3.1. Notice was delivered to FIGR on February 26, 2020. The City of Petaluma did not receive a request from FIGR requesting consultation.

CASA GRANDE PROJECT

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1. SUMMARY AND INTRODUCTION

1.1. PURPOSE AND INTENT

This Environmental Checklist for the proposed Casa Grande project (hereinafter referred to as the "project") has been prepared by the City of Petaluma as lead agency in full accordance with the procedural and substantive requirements of the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

This Initial Study is intended to inform City decision-makers, responsible agencies, interested parties and the general public of the proposed project and its potential environmental effects. It provides the CEQA-required environmental documentation for all city, local and state approvals or permits that might be required to implement the proposed project.

CEQA Guidelines Section 15063(c) lists the following purposes of an Initial Study:

1) Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration.
2) Enable an Applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby possibly enabling the project to qualify for a Negative Declaration.
3) Assist in the preparation of an EIR, if one is required.
4) Facilitate environmental assessment early in the design of a project.
5) Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment.
6) Eliminate unnecessary EIRs.
7) Determine whether a previously prepared EIR could be used with the project.

The City of Petaluma, as the lead agency, has conducted an Initial Study to determine the level of environmental review necessary for the proposed project. Consistent with Section 15070(b) of the CEQA Guidelines, the Initial Study identified potentially significant effects, but:

1) Revisions in the Project plans or proposal made by or agreed to by the applicant before a proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect would occur; and
2) There is no substantial evidence, in light of the whole record before the agency, that the Project as revised may have a significant effect on the environment.

Therefore, as the lead agency, the City of Petaluma has determined that a Mitigated Negative Declaration is the appropriate level of environmental review.

1.2. PROJECT SUMMARY

The proposed Casa Grande project consists of a 36-lot residential subdivision on a 4.5-acre site in southeastern Petaluma, Sonoma County, California. The project would develop 36, two-story single-family homes that would be offered as a for-sale product with five on-site affordable units. Eleven of the dwelling units are proposed to contain attached junior accessory dwelling units integrated into the building envelopes. Thirty of the single-family homes will be detached single-family units and six of the units will be attached single-family units. The project includes a new public street with a Class III bicycle facility bisecting the site and providing through access between Casa Grande Road to the west and Del Rancho Way/Del Oro Circle to the south via a looped connection. Parking onsite will be provided in garages (65 spaces) and driveways (65 spaces) of private residences. The public street will contain 12 on-street parking spaces for use by the general public. Each garage space will contain at least one bicycle rack and will have an electric vehicle charging station for one vehicle. Other on-site improvements proposed by the project include landscaping, fencing, a bioretention basin, landscaped bioretention areas throughout the development, sidewalks, street lighting, and curbs and gutters.

Offsite improvements include streetscape landscaping improvements along the site's frontage to Casa Grande Road, a mid-block pedestrian crossing of Casa Grande from the project site to Casa Grande High School, and two new bus shelters provided at existing transit stops on Casa Grande Road and Ely Boulevard, respectively. The project is proposing a zoning change from Residential 4 (R4) to a Planned Unit District (PUD), a 36-lot vesting tentative subdivision map with two common parcels for a bioretention basin and public right-of-way dedication and is subject to Site Plan and Architectural Review.

1.3. PETALUMA GENERAL PLAN AND EIR

General Plan

The Petaluma General Plan 2025, adopted in 2008, serves the following purposes:

- Reflects a commitment on the part of the City Council and their appointed representatives and staff to carry out the Plan;
- Outlines a vision for Petaluma's long-range physical and economic development and resource conservation; enhances the quality of life for all residents and visitors; recognizes that human activity takes place within the limits of the natural environment; and reflects the aspirations of the community;
- Provides strategies and specific implementing policies and programs that will allow this vision to be accomplished;
- Establishes a basis for judging whether specific development proposals and public projects are in harmony with Plan policies and standards;
- Allows City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve and enhance critical environmental resources, and minimize impacts and hazards; and
- Provides the basis for establishing and setting priorities for detailed plans and implementing programs, such as Development Codes, the Capital Improvement Program (CIP), facilities and Master Plans, redevelopment projects, and the Urban Growth Boundary (UGB).

General Plan EIR

The General Plan EIR was certified by the City Council on April 7, 2008 (SCH# 2004082065). The General Plan EIR reviewed all potentially significant environmental impacts and developed measures and policies to mitigate impacts from buildout of the General Plan. Nonetheless, significant and unavoidable impacts were determined to occur. Therefore, the City adopted a statement of overriding considerations, which balances the merits of approving the project despite the potential environmental impacts. The impacts identified as significant and unavoidable in the General Plan EIR are:

- Increased motor vehicle traffic which would result in unacceptable level of service (LOS) at six intersections covered in the Master Plan:
    - McDowell Boulevard North/Corona Road, Lakeville Street/Caulfield Lane, Lakeville Street/East D Street, Petaluma Boulevard South/D Street, Sonoma Mt. Parkway/Ely Boulevard South/East Washington Street, and McDowell Boulevard North/Rainier Avenue.
- Traffic related noise at General Plan buildout, which would result in a substantial increase in existing exterior noise levels that are currently above City standards.
- Cumulative noise from proposed resumption of freight and passenger rail operations and possible resumption of intra-city trolley service, which would increase noise impacts.
- Air quality impacts resulting from General Plan buildout to population levels that could conflict with the Bay Area 2005 Ozone Strategy. (This regional air quality plan has since been replaced by the 2010 Clean Air Plan, which is further discussed in Sections 3.3 Air Quality and 3.7 Greenhouse Gases.)
- A possible cumulatively considerable incremental contribution from General Plan development to the

significant impact of global climate change.

Because CEQA discourages "repetitive discussions of the same issues," this environmental document tiers off the General Plan EIR to examine site-specific impacts of the proposed project, as described below. A copy of the City of Petaluma's General Plan and EIR are available at the Community Development Department, 11 English Street, Petaluma, California 94952, during normal business hours and online at https://cityofpetaluma.org/drg-casa-grande/.

2. PROJECT DESCRIPTION

2.1. ENVIRONMENTAL SETTING

Regional Setting

Petaluma is located in southwestern Sonoma County along the Highway 101 corridor approximately 15 miles south of Santa Rosa and 20 miles north of San Rafael. It is situated at the northernmost navigable end of the Petaluma River, a tidal estuary that drains to the San Pablo Bay. The City originated along the banks of the Petaluma River, spreading outward over the floor of the Petaluma River Valley as the City developed. The Valley itself is defined by Sonoma Mountain on the northeast and by the hills extending northward from Burdell Mountain on the west. To the south are the Petaluma Marshlands and the San Francisco Bay beyond.

Petaluma's Urban Growth Boundary (UGB) defines the limits within which urban development may occur and encompasses approximately 9,911 acres. The UGB was implemented in 1987 (as the Urban Limit Line), formally adopted as the UGB in 1998 via Measure I and will expire in 2025. The General Plan and EIR evaluated potential impacts associated with existing development and buildout of all land use within the UGB. The project site is located within the UGB. The project's location within the City of Petaluma is shown in Error! Reference source not found..

Vicinity Setting

The project site is located at 240 and 250 Casa Grande Road in southeastern Petaluma and within the Petaluma General Plan's South East Planning Subarea, which is defined by East Washington Street, Highway 101, Lakeville Highway, Frates Road, and Petaluma's Urban Growth Boundary (UGB). Lakeville Highway, Frates Road and East Washington Street all act as city gateways to Petaluma from the countryside and neighboring communities to the south and east. The Planning Subarea primarily consists of single-family residences. A local serving shopping center is located at McDowell Boulevard's intersections with Casa Grande Road. The subarea has three elementary schools and one high school.

The Petaluma Municipal Airport, which lies near the eastern edge of the UGB, contributes to the large amount of public land in this subarea. Open spaces include the golf course located on Frates Road, small neighborhood parks, and the Urban Separator between the Airport and nearby residential neighborhoods. Open space corridors, with minimal trail and landscaping improvements also line most of the length of two creeks (East Washington and Adobe Creeks) in the subarea.

Project Site

The 4.5-acre project site is comprised of two parcels (APNs 017-040-020 and -059) located on the east side of Casa Grande Road between Ely Boulevard South to the north, South McDowell Boulevard to the south and immediately west of Adobe Creek. The project site is relatively flat with a change in elevation of approximately four feet across the site, gently sloping from west to east towards Adobe Creek. Adjacent land uses include detached single-family residences to the south and to the east across Adobe Creek. Casa Grande High School is located across Casa Grande Road to the west. (**Figure 2: Project Vicinity**).

The project site has been previously graded and used for agricultural uses in the past. Two existing single-family dwelling units are located onsite, as well as accessory structures, agricultural equipment and vehicles. The single-family dwelling on the 240 Casa Grande Road parcel was constructed at some point prior to 1942 (exact date uncertain), while the 250 Casa Grande Road parcel contains a house constructed in 1964. A number

of small sheds and outbuildings and a large metal shop building are located on the western portion of the project site. Most of the area surrounding the single-family dwellings and accessory structures has been disturbed and contains gravel surfaces that is utilized for vehicular circulation and for outdoor storage of agricultural equipment, vehicles, heavy machinery and truck trailers. Access to the project site is currently taken from a single driveway from Casa Grande Road.

Adobe Creek and its associated riparian corridor, designated Open Space, constitute the eastern half-acre of the project site. The riparian area consists of a mix on native and non-native riparian species including two species of native willow, non-native Himalayan blackberry, buckeye, elderberry, toyon and coast live oak. The area of the project site between the developed western portion of the project site and the Adobe Creek riparian area is disked and is utilized for agricultural fodder crop. Outside of the riparian area, seven existing trees exist on-site with the tree species being Box Elder, Siberian Elm, English Walnut and Giant Sequoia.

The applicable General Plan land use designations for the project site are Medium Density Residential (8.1 to 18.0 dwelling units per acre, Open Space, and Floodplain (**Figure 3: General Plan Land Use**). The project site is currently zoned R4 (Residential 4) and Floodplain as shown in **Figure 4: Existing and Proposed Zoning**. The project is subject to policies and provisions of Chapter 6 of the IZO (Floodway and Flood Plain Districts) pertaining to floodplains (Sections 6.070.B and 6.070.D).

2.2. PROJECT DESCRIPTION

The project proposes the development of 36, two-story residential homes, a total 11 new junior accessory dwelling units, a new public road bisecting the site, landscaping, lighting and ancillary improvements. The project's site plan is shown in **Figure 5: Site Plan**.

Single-Family Residences

The project includes the construction of 36, two-story single-family residential units. Of the 36 units, 30 of the units are proposed as single-family detached units and six of the units would be attached single-family dwelling units. The residences will contain either two, three or four bedrooms and will range in size from 1,395 square feet up to 2,380 square feet. Junior accessory dwelling units (JADU) are proposed at the second story of 11 of the new dwelling units. The JADUs will have a separate entry from the outside and will measure 317 square feet each. Twenty-nine (29) of the detached dwelling units are proposed to contain four off-street vehicular parking spaces (two covered, two uncovered), while one of the detached units and all six of the attached units would contain two off-street vehicular parking spaces (one covered, one uncovered). At least one bicycle rack is included in each garage parking space along with an electric vehicle charging station for one vehicle. All homes will include landscaped front yards that would be planted and maintained by the development's homeowner's association and a private, fenced back yard area. A covered porch has been proposed on all of the proposed units.

The residences in the project will utilize four differing floor plans with four identified architectural styles that have been labeled as "Spanish", "Traditional", "Bungalow", and "Craftsman." The Spanish design will feature stucco walls, simulated clay tile vents, shutters and concrete tile roofs. The Traditional design will have walls of cementitious lap siding with brick accents, wood shutters and a composition shingle roof. The Craftsman design will have cementitious lap siding accented with either staggered edge shingle siding or cementitious panel and batt siding at the gables with a composition shingle roof. The Bungalow design will feature stucco and cementitious siding, heavy columns with a stone base, half-timbers, and out-lookers along with a composition shingle roof. The homes will be painted with six different color schemes. All of the residences will have a front porch. The proposed buildings heights will be between 23 feet and 29 feet. See the Casa Grande project architectural plan set.

Landscaping and Fencing

The preliminary landscape plan includes planting new trees, shrubs, grasses, perennials, and groundcover as well as the removal of seven trees onsite. None of the seven trees proposed for removal is a protected tree under the IZO. Trees and other landscaping plants will be installed along the street frontages, in the front setback areas and in the common parcel that will be utilized for the bioretention basin. All proposed planting

species require low to moderate water use. The street tree species is proposed as the Red Maple. The trees proposed in the common parcel containing the bioretention basin are California Buckeye and Valley Oak. Merlot Redbud and Crepe Myrtle tree species will be utilized as accent trees in the front setback areas of the residential lots. The bioretention basin area is not proposed to be publicly accessible and will contain a path for on-going maintenance of the basin.

Seven fence types of varying heights and materials are located within the project, including; a six-foot-tall wooden fence located between all lots; a wood and hog-wire fence measuring 42 inches and six feet in height at select locations adjacent to street-facing areas and the bioretention basin; a three-foot-tall split rail cedar fence near the bioretention basin; an eight-foot-tall fence (six feet of solid material, two feet of lattice) is proposed on the northern and southern property lines; and, a similar eight-foot-tall fence that is double-sided is proposed adjacent to the Casa Grande Road frontage.

Utilities

Existing water mains in Casa Grande Road and Del Rancho Way will be utilized to connect to the public water system and an existing sewer main in Del Rancho Way will be utilized to connect to the public sewer system. Public water and sewer extensions will be installed within the new public street with individual hook-ups to each of the proposed residences. The project's wastewater would be conveyed from the project site to the Ellis Creek Water Recycling Facility.

The proposed private and public onsite storm drain system will connect to the existing municipal storm drain stubbed out on Del Rancho Way and tying into the in Del Oro Circle storm drain. A private six-inch diameter storm drain system is proposed to be constructed along the rear of new lots and drain to a new public 15-inch diameter storm drain within the new public street. Stormwater runoff will be directed to common treatment areas for filtrations prior to entering the municipal storm drain system.

Flood Control/Detention/Bioretention

Based on the current FEMA Flood Rate Insurance Map, portions of the site are in the 100-year floodplain. The source of the flooding would be from Adobe Creek where flood waters are projected to overflow the bank during the 100-year storm event. As required by the City's IZO, the lowest habitable floor must be elevated a minimum of 12 inches above the base flood elevation. As such a portion of the floodplain will be filled through the site grading and the redistribution of soils onsite. To offset the displaced flood waters, a bioretention basin measuring 4,000 square feet in surface area is proposed within "Parcel A," in the eastern portion of the site, outside of the riparian corridor and approximately 50 feet from the Adobe Creek top of bank. The capacity of the detention basin is required to offset the volume of displaced flood waters and is designed to accept the surface flood water that overflows the banks from Adobe Creek. As the flood waters subside within Adobe Creek, the basin will recede, releasing the detained waters back to the creek. Any remaining waters within the basin that cannot surface flow back to the creek will discharge via a private storm drain to the public storm drain system. No new storm drain outfall into Adobe Creek or construction within the riparian corridor is proposed for the project.

The project proposes the installation of basin retention areas to collect stormwater using drainage swales to receive and filter on-site runoff prior to discharging water into the existing stormwater drain systems. Stormwater from new lots will be collected from a six-inch stormwater drain running along the rear lots of the residences and directed as sheet flow to basin retention areas. The stormwater control system and basin retention areas will be designed with the capacity to accept the runoff and provide for groundwater percolation from a two-year storm event. A primary basin retention area will be located in between the project footprint and the 50-foot setback from Adobe Creek. Storm runoff exceeding a two-year event in excess of 0.5 inches per hour will overflow into the existing 15-inch storm drain system at Del Rancho Way.

The flood detention basin will be utilized as a treatment/retention storm water treatment area. All low-flow storm events that require treatment/retention shall flow directly to the treatment/retention area within the basin. During high-flow storm events where treatment/retention is not required, the storm water will by-pass the treatment/detention area in the basin and remain in the public storm drain system. A by-pass structure will allow for the distribution of storm water to be directed to the basin or remain in the public system.

Site Access and Circulation

The project site will be accessed from a new looped public street that will connect Casa Grande Road to the west and Del Rancho Way to the south. Thirty-three of the residential lots will be directly accessed via driveways connecting to the new public road. The remaining three residential lots will be accessed via a private drive extending in an east-west fashion between the curve of the public street and the bioretention basin. A Class II bicycle facility will be constructed along the project's Casa Grande Road frontage and will align with the existing Class II bicycle facility on Casa Grande Road.

Pedestrian circulation features will include a new sidewalk on both sides of the new public street and a new reconstructed sidewalk along the site's frontage to Casa Grande Road. Other off-site circulation improvements include installation of a mid-block crossing from the project site to Casa Grande High School with a pedestrian refuge space and rectangular rapid flashing beacons, a radar speed feedback system, and new bus shelters at nearby existing transit stops located on Casa Grande Road near the Casa Grande Senior Apartments and on Ely Boulevard South adjacent to the high school.

Site Preparation and Construction

Development of the proposed project is presumed to occur over an approximately 11-month construction period and will initiate with site preparation and grading. Site preparation will involve the demolition of all on-site structures and gravel surfaces and the removal of existing trees and vegetation. Grading of the site will result in distributing soils across the site to achieve level foundations for building pads, elevate building pads a minimum of 12 inches above the base flood elevation, trenching to accommodate utilities, excavation for the bioretention basin and grading for the new public street and sidewalks. Grading activities will include 3,692 cubic yards of soil cut and 4,988 cubic yards of fill. None of the on-site trees proposed for removal are considered protected trees. No disturbance of the Adobe Creek riparian corridor is proposed.

Following completion of grading activities, utility infrastructure improvements and building foundations will be constructed. Improvements will include the installation of new laterals and tie-ins to connect to the existing water, sewer, power, and gas services along Casa Grande Road and Del Rancho Way to the proposed utilities in the new public street. Improvements along the new public street introduced by the project will include new driveways, sidewalks, landscaping, lighting, signage, and curb and gutters. Similar improvements are proposed along the site's frontage to Casa Grande Road, with the exception of new driveways.

Construction equipment expected to be utilized include concrete saws, dozers, tractors, backhoes, haul trucks, scrapers, graders, pavers, cranes, forklifts, water trucks and other heavy-duty construction equipment. Staging of construction equipment and materials will occur within the footprint of the project site and within the right-of-way on Casa Grande Road if necessary (through the issuance of an encroachment permit). Construction equipment staging shall be precluded from the eastern portion of the site and as far a feasible from the Adobe Creek riparian corridor.

Vesting Tentative Subdivision Map

The Vesting Tentative Subdivision Map identifies proposed lot lines, common areas, easements, areas proposed for public dedication and areas for circulation among other items. The residential lot sizes will range from 2,003 gross square feet to 4,104 gross square feet with an average lot size of 3,030 gross square feet. "Parcel A", containing the proposed bioretention basin, will measure 1.12 acres. "Parcel B", containing the area proposed for public right-of-way dedication along Casa Grande Road, will measure 858 square feet. The future internal public road will occupy 0.88 acres of the project site, and the private drive located near the curve of the new public road will measure 2,262 square feet. The Vesting Tentative Subdivision Map also depicts that all improvements will be located outside of the Adobe Creek riparian corridor and will not be located within 50 feet of the top of the Adobe Creek bank.

Inclusionary Affordable Housing

The project is subject to develop onsite affordable housing units as required under Petaluma's IZO §3.040. As an ownership project, the ordinance calls for 7.5% of new construction to be dedicated for low-income units and

7.5% for moderate-income units. With 36 units, the IZO requires five onsite affordable units, unless an alternative means of compliance is sought and approved by City Council. The project proposes to offer five units at the required affordability levels to income-qualified residents. The affordable units account for five of the six total attached units. The junior accessory dwelling units are not eligible to satisfy the inclusionary affordable housing requirement of the IZO since they are not considered a "dwelling unit" under the IZO.

2.3. PUBLIC OUTREACH

Pursuant to City of Petaluma Resolution No. 2018-107 N.C.S., one formal, required public outreach event was held to obtain feedback from the community. The event was a "virtual" event due to the stay-in-place executive orders associated with COVID-19 event. The meeting was conducting via a live Zoom session where the applicant presented the proposed project to interested parties. Members of the public were able to ask questions and make comments in real time on the Zoom session and were able to submit comments and questions before and after the meeting. Plans and project materials were made available to the public to access and download. The live Zoom session took place on April 29, 2020, starting at 6:30 p.m. All property owners and occupants within 1,000 feet of the project site were notified of the virtual event via U.S. Mail with the notice sent to the public on April 8, 2020. The notice contained instructions that detailed how an interested member of the public could access the event. The virtual event was also recorded for subsequent viewing. Approximately 26 community members attended the meeting. The community expressed concerns about the size and height of the proposed residences, drainage, flooding, as well as the current traffic conditions on Casa Del Grande Road.

The project was reviewed by the Pedestrian and Bicycle Advisory Committee on August 26, 2020. Input was provided by the committee regarding the Casa Grande Road mid-block crossing and associated safety enhancements, public access and improvements to the bioretention area and Adobe Creek area of the site, addition of further accessory dwelling units, reduction of vehicle parking, and the elimination of the Class III bicycle facility on the new public street.

2.4. ENTITLEMENTS & APPROVALS

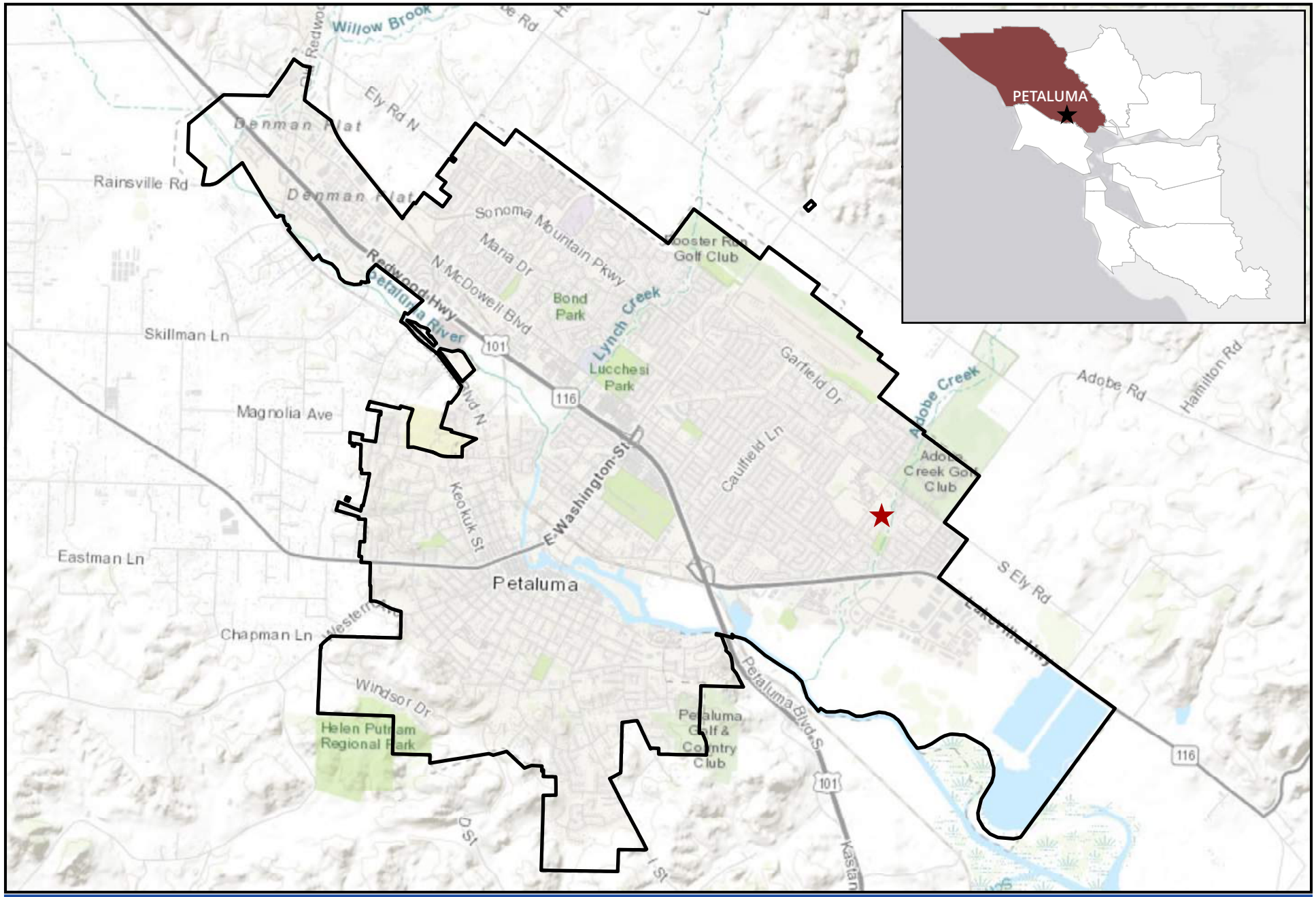
The following entitlements are required of the City of Petaluma in order to authorize this proposal:

1. A Zoning Map Amendment to rezone the project site from R4 to a Planned Unit Development (The Casa Grande PUD)
2. A Zoning Text Amendment to establish the development standards of the PUD
3. Vesting Tentative Subdivision Map
4. Site Plan and Architectural Review (SPAR)

The following approvals are expected to be required from outside agencies and regulatory agencies:

1. Sonoma Water - Approval of the Hydrology Study, Stormwater Detention/Bioretention feature
2. Regional Water Quality Control Board – Individual NPDES Permit

FIGURE 1



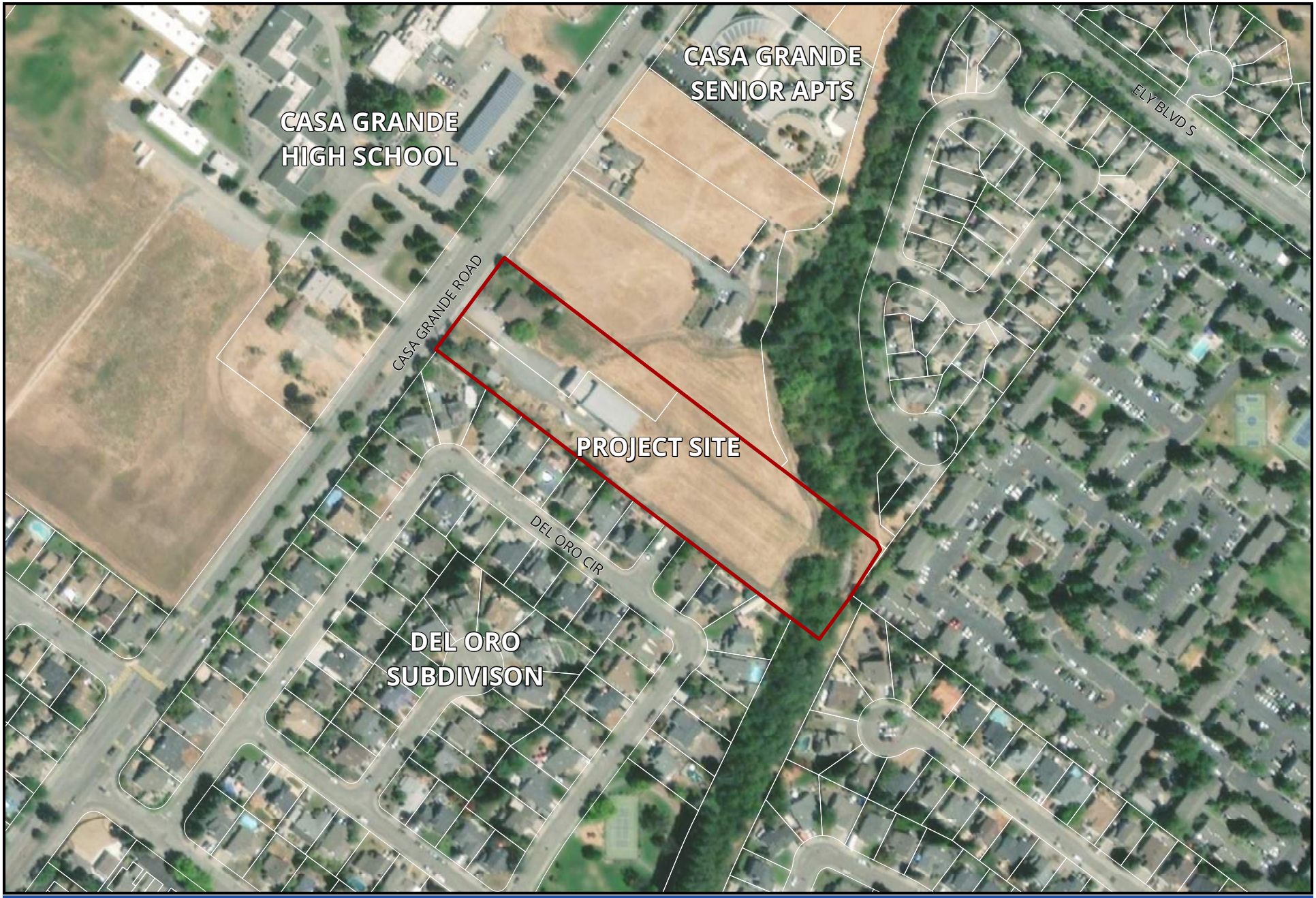
CASA GRANDE: REGIONAL LOCATION

0 0.5 1 2 Miles

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap

- PROJECT SITE
- CITY OF PETALUMA
- SONOMA COUNTY

FIGURE 2



CASA GRANDE: PROJECT VICINITY

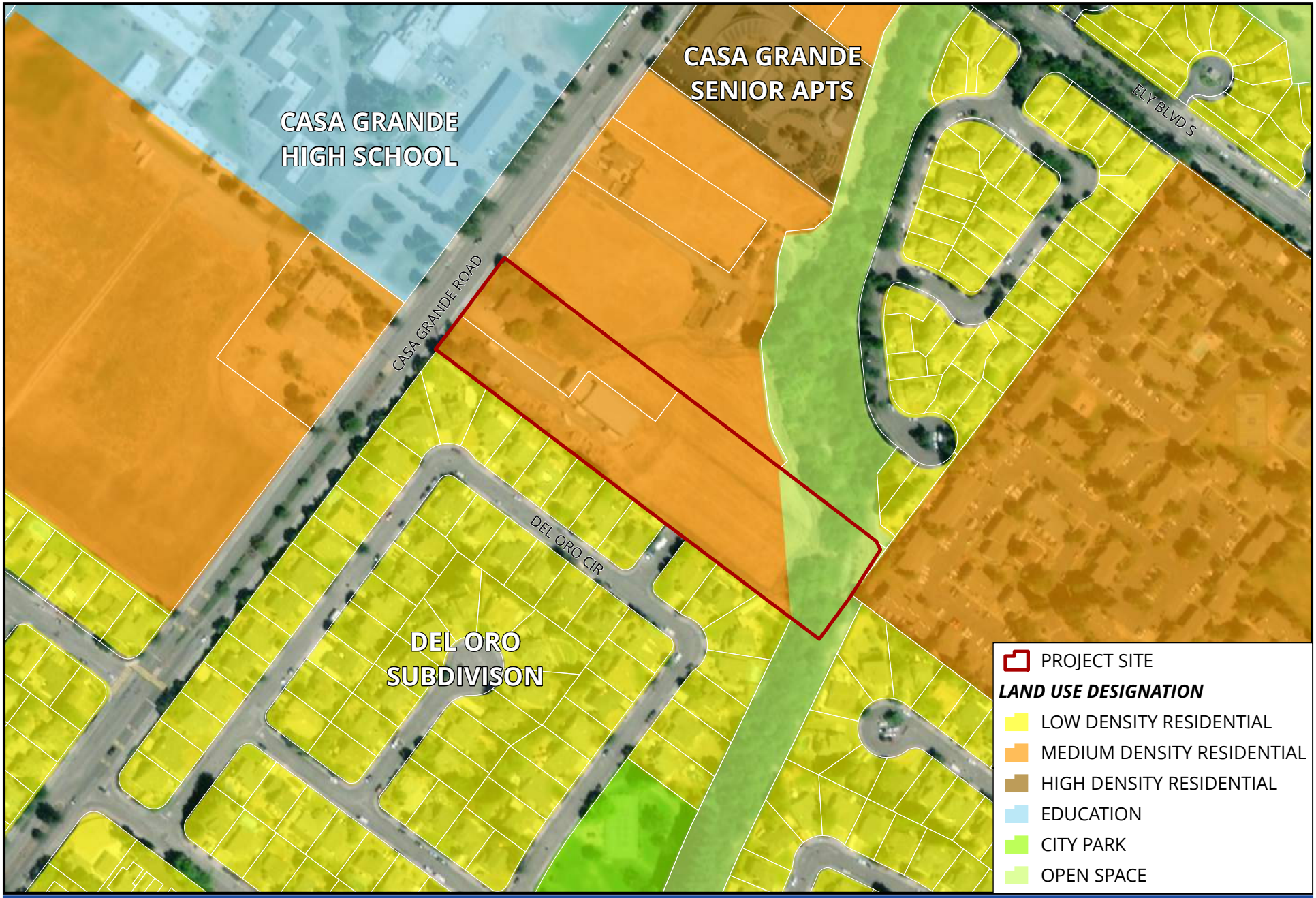
PROJECT SITE

0 0.025 0.05 0.1 Miles

N

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap

FIGURE 3



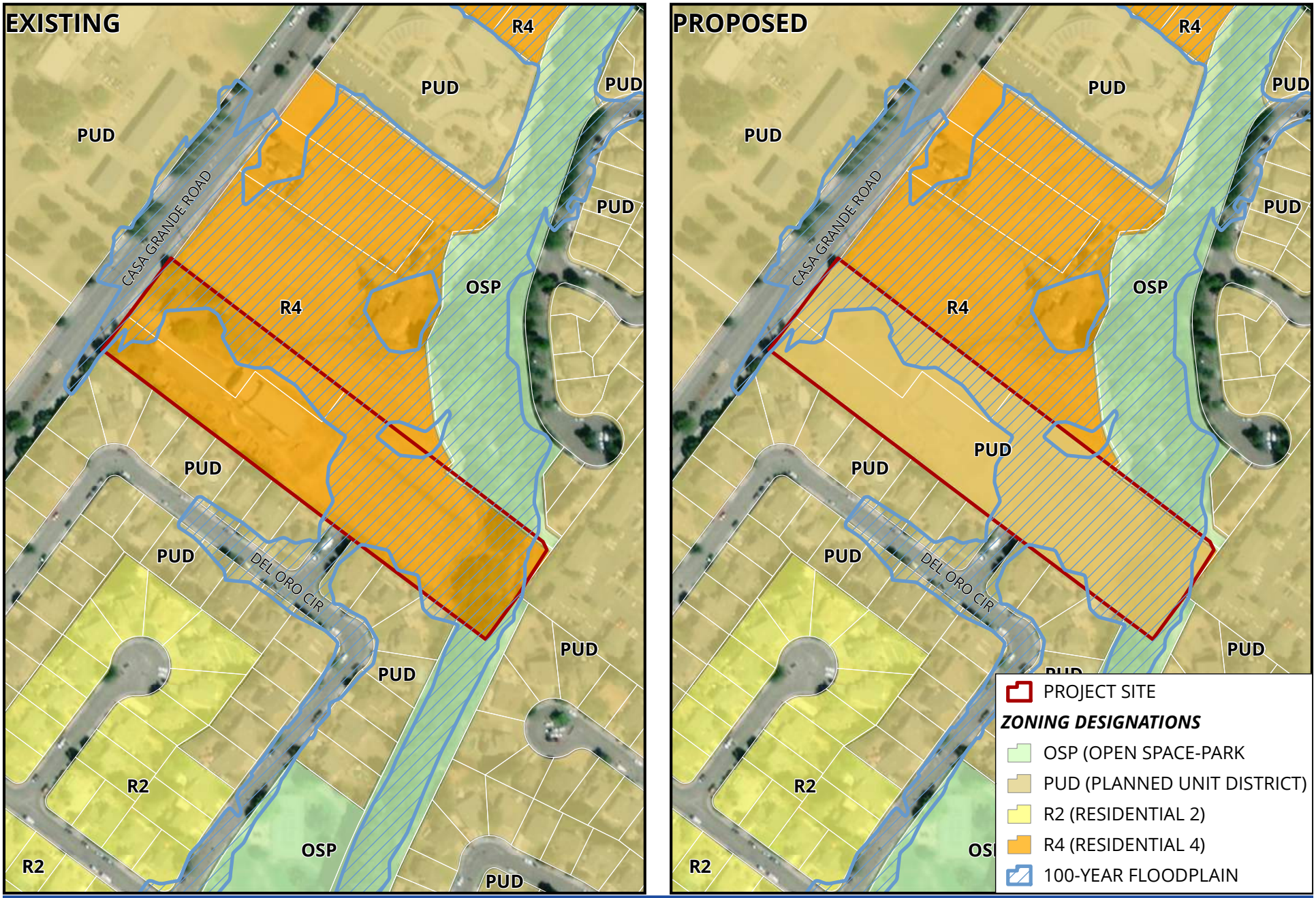
CASA GRANDE: GENERAL PLAN LAND USE

0 0.025 0.05 0.1 Miles

N

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap

FIGURE 4

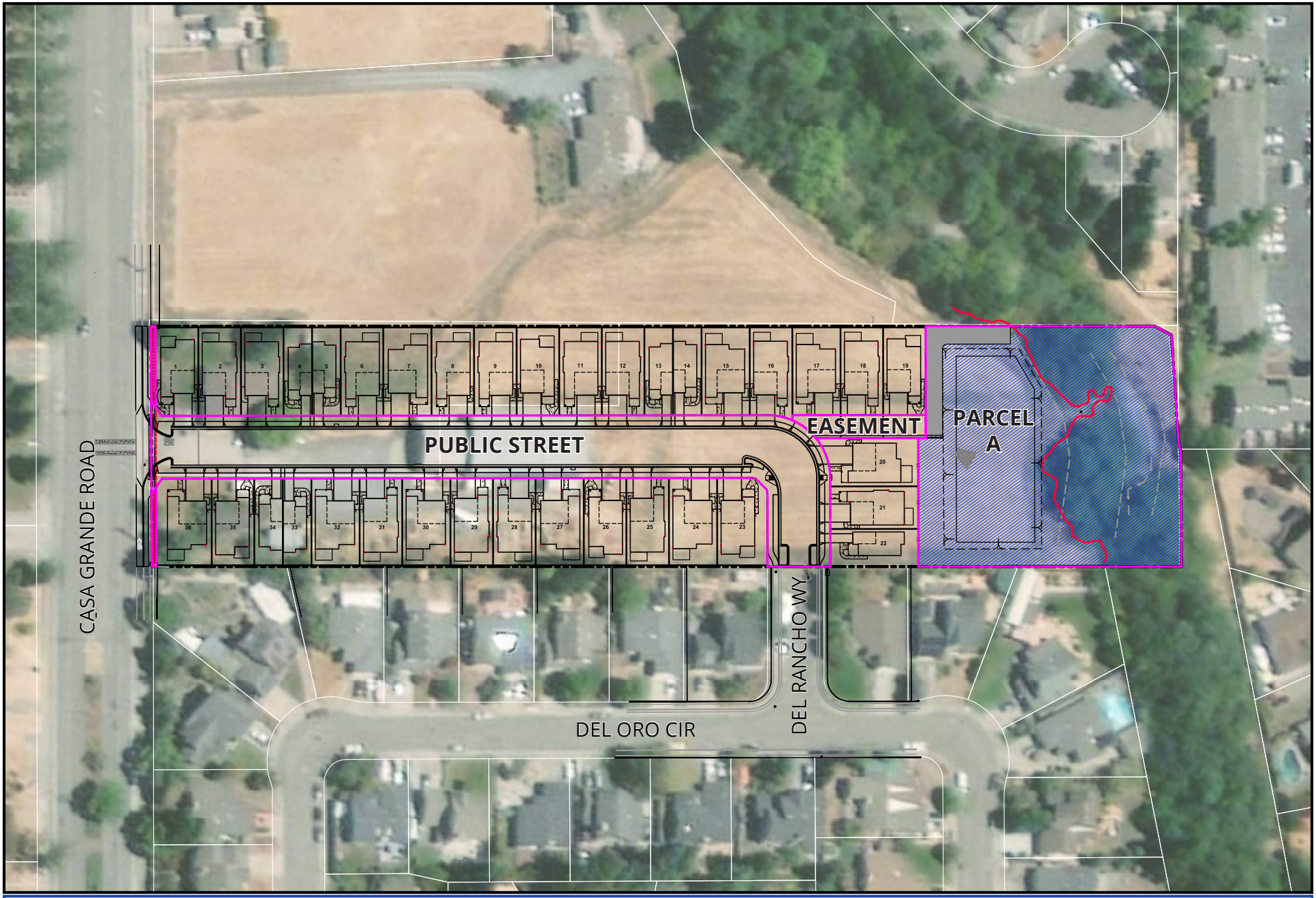


CASA GRANDE: EXISTING AND PROPOSED ZONING

0 0.025 0.05 0.1 Miles

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap

FIGURE 5



CASA GRANDE: SITE PLAN

0 0.01 0.02 0.04 Miles

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap; Steven J. Lafranchi & Associates Plan Sheet C-5, June 8, 2020

3. 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 Unless Mitigation is Incorporated" as indicated by the checklist on the following pages.

1.	Aesthetics		8.	GHG Emissions		15.	Public Services	
2.	Agriculture / Forestry		9.	Hazards	X	16.	Recreation	
3.	Air Quality	X	10.	Hydrology	X	17.	Transportation	
4.	Biological Resources	X	11.	Land Use / Planning		18.	Tribal Cultural Resources	X
5.	Cultural Resources	X	12.	Mineral Resources		19.	Utilities / Service Systems	
6.	Energy		13.	Noise	X	20.	Wildfire	
7.	Geology / Soils	X	14.	Population / Housing		21	Mandatory Findings	X

3.1. DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. **A MITIGATED NEGATIVE DECLARATION** will be prepared.	**X**
I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.	
I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Olivia Ervin

Olivia Ervin, Principal Environmental Planner

October 7, 2020

Date

4. EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) The explanation of each issue should identify:

    a) the significance criteria or threshold, if any, used to evaluate each question; and

    b) the mitigation measure identified, if any, to reduce the impact to less than significance

The following discussion addresses the potential level of impact relating to each aspect of the environment.

4.1. AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) 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?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); California Scenic Highway Mapping System, Scenic Highway System Lists, accessed November 2019; Photometric Plan, Associated Lighting Representative, February 7, 2020; Civil Engineering Plans and Site Plan, prepared by Steven J Lafranchi & Associates, June 8, 2020 and updated August 5, 2020; and Arborist Report prepared by Becky Duckles, October 9, 2019.

Aesthetics Setting: The natural features that characterize Petaluma and its surroundings provide for a visually rich setting. The City of Petaluma is located in the Petaluma River Valley, which is northwest-southeast trending between Sonoma Mountain and Mount Burdell. The City is flanked by the foothills and peaks associated with these mountain ranges which provide for views of rolling hills and agricultural landscapes. Petaluma is traversed by the Petaluma River and tributaries that contribute to the aesthetic quality of the City. A long-established urban form within City limits contrasts with the surrounding natural and agricultural features.

The project site is located within the South East subarea of the General Plan, which is characterized primarily by single-family residences, the Washington Square Shopping Center, and the Petaluma Municipal Airport. Surrounding the project site are detached single-family residential units to the south and east across Adobe Creek, Casa Grande High School to the west across Casa Grande Road, and vacant land to the north. The Casa Grande Senior Apartments are also located north of the site near the intersection of Casa Grande Road and Ely Boulevard. The project site is situated within a built-up area and is surrounded by existing residential subdivisions. Aesthetic and visual resources present in the project area are limited to views of the Adobe Creek corridor and intermittent views of the Sonoma Mountains to the north.

The project site is currently developed with a single-family residence on each underlying property. A number of small sheds, outbuildings, and a large metal shop building are also located on the western portion of the property. The site contains ruderal vegetation in areas surrounding existing improvements. Unimproved areas of the site have been periodically disturbed through routine mowing. Existing trees onsite include three Giant Sequoia, two Box Elder, one Siberian Elm, and one English Walnut, all of which are considered non-protected trees under the City of Petaluma Implementing Zoning Ordinance. A mix of native riparian species are also located along the Adobe Creek corridor. Onsite lighting associated with the existing improvements as well as surrounding improvements and street lighting on Casa Grande Road contribute to existing conditions in the immediate vicinity of the project site.

Aesthetics Impact Analysis:

4.1 (a) (Scenic Resource or Vista) No Impact: The General Plan 2025 EIR (Figure 3.11-1) identifies hills to the west and south of the City, vistas of Sonoma Mountain, and land along the Petaluma River as local scenic resources. The General Plan 2025 EIR utilizes the following three public viewpoints to determine potential adverse effects upon the aforementioned vistas: (a) Washington Street overpass; (b) McNear Peninsula; and (c) Rocky Memorial Dog Park.

The project site is not located within close proximity to the Washington Street overpass or the McNear Peninsula viewpoints. Rocky Memorial Dog Park is located approximately one mile south of the project site. The project site is relatively flat, and implementation of the proposed project will not impact views of Sonoma Mountain to the north. The proposed two-story buildings would not change views of Sonoma Mountain or the Petaluma River as currently viewed from the three designated public viewpoints. Therefore, no impacts to scenic resources will result from the development of the proposed project.

4.1 (b) (Scenic Resources from a Designated State Highway) No Impact: According to the California Scenic Highway Program, US 101 and State Route 116 (Lakeville Highway) are not designated scenic highways within the City of Petaluma, nor are they considered eligible to be officially designated. The project will not be visible from Highway 101 due to existing urban development, landscaping, and trees between the project site and the Highway. Development of the proposed project will not damage scenic resources including, but not limited to trees, rock outcroppings, and historic buildings viewable from a designated (or eligible) State scenic highway. Therefore, no impacts to scenic resources viewable from a designated state highway will result from development of the proposed project.

4.1 (c) (Degrade Visual Character or Conflict with Scenic Quality) Less Than Significant Impact: The site is surrounded by urban uses including single and two-story residences to the south and east, vacant land, Casa Grande Senior Apartments, and larger low density single-family residences to the north, and a high school to the west. Although the project proposes a zoning map amendment from Residential 4 (R4) to a Planned Unit Development, the development pattern is consistent with the surrounding character and is typical of single-family residential subdivisions. The project would remove existing improvements onsite and would introduce a residential subdivision that is generally compatible with the established neighborhood character. Therefore, environmental impacts due to a degraded visual character would be less than significant.

4.1 (d) (Light and Glare) Less Than Significant Impact: The project will result in new lighting associated with exterior and interior residential lighting, landscaping, and headlights from vehicles entering and exiting the project site. The project will install four new pole lights along the new public street located perpendicular to Casa Grande Road. Additionally, various styles of wall sconces will be installed on the proposed units. New lighting introduced by the project would be consistent with lighting levels in the immediate vicinity. A photometric plan depicting proposed illumination levels from new street lighting along the new public street demonstrates compliance with the standards of IZO Section 21.040(D), which provides that indirect and direct glare shall be below 3-foot candles. Therefore, the project's potential light and glare impacts would be less than significant.

Aesthetics Mitigation Measures: None required.

4.2. AGRICULTURAL AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Sources: 2025 General Plan and EIR; California Department of Conservation, Farmland Mapping and Monitoring Program, Sonoma County, 2016; Sonoma County Draft Vital Lands Initiative, December 2019; and Permit Sonoma's Williamson Act Properties 2017.

Agricultural and Forestry Setting: The California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) classifies agricultural land according to soil quality and irrigation status. According to data acquired from the Department of Conservation, FMMP, land classifications within the City consist of Prime Farmland, Grazing Land, Farmland of Local Importance, Unique Farmland, Other Land, and Urban and Built-up Land. One objective of the establishment of the UGB was the preservation of natural resources, including agricultural lands, and other open spaces outside of the UGB boundary and concentration of urban development within the UGB. The Sonoma County Draft Vital Lands Initiative maps the county's natural resources, including conifer forests, priority shrublands and hardwood forest. The County's Draft Vital Lands Initiative does not identify forestlands within the City of Petaluma.

The project site is located on land designated as Urban and Built-up and is surrounded by land also designated as Urban and Built-up. The nearest land to the project site designated by the FMMP as agricultural land is located outside of the UGB and is designated as Farmland of Local Importance. Furthermore, the project site is not designated as forestland or under a Williamson Act Contract.

Agricultural and Forestry Impact Analysis:

4.2 (a-e) (Farmland Conversion, Williamson Act, Forestland/Timberland Conflict) No Impact: The project site does not include any agricultural or forested lands as identified by the California Department of Conservation, Farmland Mapping and Monitoring Program, and Sonoma County's Draft Vital Lands Initiative. The project, as proposed, consists of infill development located on a site with existing single-family residences, a warehouse building, and an agricultural field historically used for forage crops. The project site and surrounding area are designated by the California Department of Conservation, FMMP as Urban and Built-up. Furthermore, the project site has a General Plan Land Use designation of Medium Density Residential and is surrounded by lands designated for residential use. The nearest land designated by the FMMP as agricultural land is located approximately 1,700 feet to the east at the corner of Frates Rd and Ely Boulevard South. The project will not convert land designated by the FMMP as farmland, nor will the project conflict with existing zoning for agricultural use by converting a parcel under a Williamson Act contract to a non-agricultural use. As such, the project will not conflict with current agricultural zoning or lead to the loss of farmland and will therefore have a less than significant impact.

In the absence of forested lands there is no potential for the project to conflict with existing forested land or result in the loss or conversion of forested land to another use. As the project is infill within the UGB it will not provide an impetus for the conversion of farmland or forest land to any alternative use. Therefore, the project will have no impact to agricultural and forestry resources.

Agricultural and Forestry Mitigation Measures: None required.

4.3. AIR QUALITY

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

Sources: City of Petaluma General Plan and EIR; BAAQMD 2017 Bay Area Clean Air Plan; and BAAQMD CEQA Guidelines May 2017; Civil Engineering Plans, prepared by Steven J Lafranchi & Associates, June 8, 2020

Air Quality Setting: The City of Petaluma is located within the San Francisco Bay Area air basin regulated by the Bay Area Air Quality Management District (BAAQMD). Air quality within the Bay Area Air Basin is influenced by natural geographical and meteorological conditions as well as human activities such as construction and development, operation of vehicles, industry and manufacturing, and other anthropogenic emission sources. The Federal Clean Air Act and the California Clean Air Act (CCAA) establish national and state ambient air quality standards. The California Air Resources Board (CARB) oversees the implementation of the CCAA by regulating emissions from motor vehicles and consumer products. The BAAQMD is responsible for planning, implementing, and enforcing air quality standards within the Bay Area Air Basin, including the City of Petaluma.

The Bay Area Air Basin is designated as non-attainment for both the one-hour and eight-hour state ozone standards; 0.09 parts per million (ppm) and 0.070 ppm, respectively. The Bay Area Air Basin is also in non-attainment for the PM_{10} and $PM_{2.5}$ state standards, which require an annual arithmetic mean (AAM) of less than 20 $\mu g/m^3$ for PM_{10} and less than 12 $\mu g/m^3$ for fine particulate matter ($PM_{2.5}$). In addition, the Basin is designated as non-attainment for the national 24-hour $PM_{2.5}$ standard although the EPA recognized the Air District as achieving the attainment in 2013.[1] The nearest BAAQMD air monitoring station to the project site is located in Sebastopol which reports an annual level of PM2.5 at 5.6 $\mu g/m^3$, below the required AAM. All other national ambient air quality standards (NAAQS) within the Bay Area Air Basin are in attainment.

The BAAQMD is given authority by the California Air Resources Board (CARB) to regulate toxic air contaminants (TAC) as an air pollutant causing carcinogenic and other health effects. The Air District is working to regulate a TAC as a particulate matter emitted from diesel-fueled engines, called diesel particulate matter, that is responsible for 70 percent of TAC emissions in the Air District.

Air quality emissions of carbon monoxide (CO), ozone precursors (ROG and NOx) and particulate matter (PM10 and PM2.5) from construction and operation are evaluated pursuant to the BAAQMD CEQA Air Quality

[1] In January 2013, the US EPA issued a final determination recognizing the BAAQMD achieved the 24-hour PM2.5 national standard which effectively suspended the requirements for the region to submit EPA national ambient air quality documentation. So as long as the District meets the 2006 24-hour PM2.5 NAAQS, the District is not required to submit an attainment demonstration, reasonably available control measures, a reasonable further progress (RFP) plan, and contingency plans for failure to meet RFP and attainment deadlines. The ruling is effective February 8, 2013 and continues through the latest available fine particulate matter measurements. The BAAQMD will continue to be designated as "non-attainment" for the national 24-hour PM2.5 standard until the Air District submits a "resignation request" and "maintenance plan" to EPA, and EPA approves the District's resignation proposal.

Guidelines established in May 20102 and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it was expected that updated thresholds and guidelines would also be released, but none have been made available to date (August 2020). In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of Petaluma recognizes that the BAAQMD thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.[3] BAAQMD air quality thresholds are presented in Table 1 below.

TABLE 1: AIR QUALITY THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Maximum Annual Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NOx	54	54	10
PM10	82	82	15
PM2.5	54	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other BMP	Not Applicable	
Single-Source Health Risks and Hazards for New Sources or New Receptors			
Excess Cancer Risk	> 10.0 per one million		
Chronic or Acute Hazard Index	> 1.0		
Incremental annual average $PM_{2.5}$	> 0.3 µg/m^3		
Cumulative Health Risks and Hazards for Sensitive Receptors			
Excess Cancer Risk	> 100.0 per one million		
Chronic Hazard Index	> 10.0		
Annual Average $PM_{2.5}$	> 0.8 µg/m^3		

Source: Table 2-1, Page 2-2, BAAQMD's May 2017 CEQA Air Quality Guidelines.

Note: BMP = Best Management Practices, ROG = reactive organic gases, NOx = nitrogen oxides, PM10 = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM2.5 = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and CO = carbon monoxide.

The City's General Plan sets forth policies and programs to maintain and enhance air quality. There are several policies that are particularly applicable to the subject project, including 4-P-6 to improve air quality through the planting of trees along streets and maintaining tree and plant resources along the creek corridor, 4-P-15 D to reduce emissions from residential uses, and 4-P-16 to reduce emissions during construction.

Air Quality Impact Analysis:

[2] Adopted by Board of Directors of the BAAQMD in June 2010 (Resolution No. 2010-6).

[3] In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion. The BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

4.3 (a) (Conflict with Air Quality Plan) Less Than Significant Impact: The BAAQMD adopted the 2017 Bay Area Clean Air Plan on April 19, 2017 to comply with state air quality planning requirements set forth in the California Health & Safety Code. The 2017 CAP includes a wide range of control measures designed to decrease emissions of air pollutants most harmful to Bay Area residents including particulate matter (PM), ozone (O3), and TACs. The CAP further aims to reduce emissions of methane and other "super-greenhouse gases" that are potent climate pollutants in the near-term and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 CAP consists of 85 distinct measures targeting a variety of local, regional, and global pollutants. The CAP includes control measures for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP. In general, a project is considered consistent if it: a) supports the primary goals of the CAP, b) includes control measures and c) does not interfere with implementation of the CAP. The proposed project would have a less than significant impact due to a conflict with the CAP since, a) the project limits urban sprawl by proposing development on an infill site within existing urban limits in close proximity to goods and services; b) includes control measures to protect air quality during construction by implementing best management practices set forth by BAAQMD; and c) the proposed 36-unit project would generate air quality emissions well below the BAAQMD criteria pollutant thresholds (see Table 2 below). Therefore, the project will not conflict with the regional air quality plan and impacts will be less than significant.

4.3 (b) (Violate Air Quality Emission Standard) Less Than Significant Impact: Air quality emissions associated with the proposed project would result from short-term construction activities and ongoing operation. BAAQMD "screening criteria" provide a conservative estimate above which a project would be considered to have a potentially significant impact to air quality and a quantitative analysis must be prepared. Projects that are below the screening criteria levels are reasonably expected to result in less than significant impacts to air quality since pollutant emissions would be minimal. When projects fall below the screening criteria levels, a quantitative analysis of the project's air quality emissions is not required. The screening level criteria for a single-family residential development is shown in Table 2 below.

Table 2: Air Quality Screening

Land Use Type	Operational Screening Size		Construction Screening Size
Single-family	325 du (NO_X)	56 du (GHG)	114 du (ROG)

Source: Table 3-1, page 3-2 BAAQMD 2017 CEQA Guidelines, May 2017. du= dwelling unit; ksf= thousand square feet

The project proposes the development of 36 single-family homes, which is well below the screening size for construction (114 dwelling units) and operation (325 dwelling units for criteria pollutants and 56 dwelling units for GHG's). Given that the project size falls below the screening criteria levels, a quantitative air quality analysis was not prepared for the project and it can be assumed that project generated emissions during construction and operation will fall below BAAQMD thresholds identified in Table 1. Therefore, it can be concluded that construction of the project will not result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment and at operation, the project will not result in air quality emissions that exceed BAAQMD thresholds for ROG, NOx, PM10 exhaust, and PM2.5 exhaust. Therefore, the project will have a less than significant impact due to degraded air quality.

4.3 (c) (Impact Sensitive Receptors) Less Than Significant Impacts with Mitigation: The BAAQMD defines sensitive receptors as "facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses." Examples of sensitive receptors include places where people live, play or convalesce and include schools, day care centers, hospitals, residential areas and recreation facilities.

The project site is near existing sensitive receptors including adjacent single-family residential uses to the north and south, and Casa Grande High School to the west across Casa Grande Road. Residential uses and schools

are considered sensitive receptors because people (children and elderly) are often at home/school for extended periods of time.

During construction, onsite activities will result in the emission of exhaust from vehicles and heavy-duty equipment as well as the generation of fugitive dust from grading and ground disturbing activities. To minimize emissions to sensitive receptors during construction, **Mitigation Measure AQ-1** shall be implemented. AQ-1 incorporates BAAQMD best management practices and requires covering haul trucks, watering during active ground disturbance, limiting idling time, proper maintenance of equipment, and other standard measures that are routinely required of development projects citywide. Mitigation Measure AQ-1 ensures that the project's construction emissions are minimized and impacts to sensitive receptors are less than significant.

The nearest sensitive residential receptors, located south of the project site, are approximately 10 feet from the nearest construction activities. Given the close proximity of residents to construction activities, which will include the use of heavy-duty construction equipment, emission levels may be occasionally elevated throughout project construction. **Mitigation Measure AQ-2** requires implementation of enhanced construction mitigation measures as recommended by the BAAQMD when activities occur within 100 feet of nearby sensitive receptors. Implementation of measures AQ-1 and AQ-2 will reduce potential impacts to sensitive receptors during construction to less than significant.

At operation, the proposed project will not generate air quality emissions that would affect nearby sensitive receptors. As a residential project, operational activities will be similar to existing uses in the immediate vicinity. Therefore, impacts to sensitive receptors during project operation will be less than significant.

4.3 (d) (Other Emissions or Odor) Less Than Significant Impact: There may occasionally be localized odors during site development associated with construction equipment, paving and the application of architectural coatings. Any odors generated during construction would be temporary and not likely to be noticeable beyond the immediate construction zone. As a residential development, operation of the project will not create objectionable odors affecting a substantial number of people. Therefore, the project will have less than significant impacts to air quality due to objectionable odors introduced by the project.

Air Quality Mitigation Measures:

AQ-1: Latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust during all construction activities shall be incorporated into all demolition and construction plans to require implementation of the following:

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 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 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 Title 13, Section 2485 of California Code of Regulations [CCR]). 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 mechanic and determined to be running in proper working condition prior to operation.
8. A publicly visible sign shall be posted 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.

AQ-2: The Applicant and contractor(s) shall implement additional construction mitigation measures recommended by BAAQMD, when activities occur within 100 feet of nearby sensitive receptors, including the following:

1. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time should be avoided.
2. Idling time of diesel-powered construction equipment shall be limited to two minutes.
3. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.
4. Require all contractors to use equipment that meets California Air Resource Board's (CARB) most recent certification standard for off-road heavy-duty diesel engines

4.4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 (Formerly Fish and Game) or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife (formerly Fish and Game) or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Sources**:** City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); Civil

Engineering Plans, prepared by Steven J Lafranchi & Associates, June 8, 2020; Biological Resources Assessment, prepared by Analytical Environmental Services, April 2020; and Arborist Report prepared by Becky Duckles, October 9, 2019.

Biological Resources Setting: Biological resources are protected by statute including the Federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), and the Clean Water Act (CWA). The Migratory Bird Treaty Act (MBTA) affords protection to migratory bird species including birds of prey. These regulations provide the legal protection for plant and animal species of concern and their habitat. As reported in the 2025 General Plan EIR several plant and animal species with special status have been recorded or are suspected to occur within the Urban Growth Boundary of the City of Petaluma. The City also contains species identified in the California Natural Diversity Database (CNDDB) due to rarity and threats and are considered sensitive resources.

The Regional Water Quality Control Board (RWQCB) is responsible for implementing Section 401 of the Clean Water Act through the issuance of a Water Quality Certification when development includes potential impacts to jurisdictional areas such as creeks, wetlands or other Waters of the State. The United States Army Corps of Engineers (USACE) regulates activities that dredge or fill material in Waters of the United States under Section 404 of the Clean Water Act. Projects that impact waters of the US are required to obtain a permit from the Corps prior to activities that dredge or fill waters of the United States. The Biological Resource Assessment (BRA) prepared for the project identifies Adobe Creek as a water of the United States. As stated in the BRA, no other wetlands or waters of the U.S. were identified on the site.

The City of Petaluma's Tree Preservation Ordinance provides protection, preservation, and maintenance guidelines for mature trees. The City of Petaluma considers the following trees to be protected:

- California native oaks (*Quercus* spp.) four inches in diameter or greater measured at 4.5 feet above grade ("diameter at breast height" or DBH)
- California buckeye (*Aesculus* californica) 6 inches DBH or greater
- California Bay (*Umbellularia* californica) 12 inches DBH or greater
- California or coast redwood (*Sequoia* sempervirens) 18 inches DBH or greater
- heritage trees as approved by Council resolution per Title 8 of the Petaluma Municipal Code
- significant groves or stands of trees
- trees located in riparian corridors
- any tree required to be planted or preserved as mitigation or condition of approval for a discretionary development project, and
- trees in the public right-of-way.

An Arborist Report was prepared for the project by Becky Duckles on October 9, 2019. The Report includes an inventory of trees onsite and sets forth recommendations for protection or removal (**Appendix A**). The Arborist Report assessed a total of nine trees on the project site and in the immediate vicinity as well as mixed riparian species located on the banks of the Adobe Creek. To accommodate the proposed development and associated improvements a total of seven trees, consisting of three giant sequoia, two box elder, and one English walnut, and one Siberian elm, are proposed for removal. None of the trees proposed for removal are considered protected species under the City's Tree Preservation Ordinance.

Biological Resources Assessment

A project-specific Biological Resources Assessment (**Appendix B**) was prepared by Analytical Environmental Services (AES), in April 2020. The Assessment included an on-site survey of the approximately 4.5-acre area to identify habitat types, including sensitive habitats, wildlife species, special-status species, wildlife corridors, wetlands, and waters of the U.S. that may be present on the project site. In addition to onsite observations, AES also utilized available data and aerial imagery to identify evidence of habitat for special-status species as well as surrounding areas to assess the potential for wildlife movement and wildlife corridors. The Assessment identifies three primary habitat types on the site including ruderal/disturbed (2.05-acres), agricultural (1.95-acres), and riparian (0.5 acres). The area classified as ruderal/disturbed lies between Casa Grande Road to the west and extends just past the existing warehouse building to the east. This area is characterized by physical improvements and surrounding areas of compressed gravel which is primarily used for vehicle access

and is not considered a sensitive habitat type as it has low quality to support plant and wildlife species. The area classified as agricultural was previously disked and planted with species primarily used for animal feed. No animals or native plants were observed within the agricultural area by AES.

Sensitive Communities

Sensitive communities within the study area are limited to the approximately 0.5-acre Adobe Creek corridor located on the eastern portion of the site. The Adobe Creek is identified by the United States Fish and Wildlife Service (USFWS) as a riverine habitat and is considered suitable habitat for freshwater fish spawning. The City of Petaluma and the Sonoma County Water Agency prepared the Adobe Creek Restoration Plan and Management Program, which is intended to enhance, restore, and manage the Creek. The plan provides guidelines for vegetation management that promote a mature riparian canopy that enhances wildlife function while also maintaining adequate capacity for flood control. Adobe Creek is considered suitable habitat to potentially support a variety of special-status plant and animal species.

Special-Status Species

The Biological Resources Assessment identifies 43 regionally occurring special-status species. The project site contains suitable habitat to potentially support two special-status plant species and eight special status animal species. These special-status species and their occurrence potential on the site are provided in the Biological Resources Assessment and briefly discussed below. Special-status species that are identified in the Assessment as regionally occurring, but with no potential to occur onsite due to a lack of suitable habitat are not further discussed.

Special-Status Plant Species
The special-status plant species listed below are classified by the California Native Plant Society (CNPS) as threat rank 1B.2 (fairly threatened) and 1B.1 (seriously threatened), respectively. Additionally, the Pacific Grove clover is listed as rare at the state level. Suitable habitat onsite for the Congested-headed hayfield tarplant includes the agricultural habitat between Adobe Creek and the onsite warehouse as well as the small patches of vegetation between Casa Grande Road and the warehouse. Onsite biological surveys were conducted during the bloom period (April - November), and no occurrences of the Congested-headed hayfield tarplant were observed onsite. The Pacific Grove clover occurs within riparian habitats, with the closest documented occurrence located approximately 1.2 miles from the project site. Due to up- and downstream development as well as the presence of invasive species along the riparian corridor, likelihood of species occurrence on the project site is low. Onsite biological surveys were conducted during the bloom period (April - June, July), and no occurrences of Pacific Grove clover were observed onsite.

- Congested-headed hayfield tarplant (*Hemizonia congesta ssp. Congesta*) - CNPS 1B.2
- Pacific Grove clover (*Trifolium polyodon*) - CNPS 1B.1; CR

Special-Status Animal Species
The following special-status animal species are identified in the Biological Resources Assessment as potentially occurring onsite. One of the eight species is listed as a candidate for state endangered listing (CCE), one is listed as a candidate for state threatened listing (CCT), five are listed as state species of special concern (CSC), one is on the state threatened list (CT), and two are listed on the federal threatened list (FT).

- Western bumble-bee (*Bombus occidentalis*) - CCE
- Steelhead (*Oncorhynchus mykiss irideus*) - FT
- Foothill yellow-legged frog (*Rana boylii*) - CCT; CSC
- California red-legged frog (*Rana draytonii*) - FT; CSC
- Western pond turtle (*Emys marmorata*) - CSC
- Burrowing owl (*Athene cunicularia*) - CSC
- Swainson's hawk (*Buteo swainsoni*) - CT
- Pallid bat (*Anttrozous pallidus*) - CSC

Flowering plants onsite may serve as an attractant of the Western bumble bee, which is identified as a candidate species for state threatened listing as invasive species and their associated pathogens as well as climate change are jeopardizing the species.

Adobe Creek is identified as suitable habitat for the Steelhead, Foothill yellow-legged frog, and California red-legged frog, all of which have documented occurrences in Adobe Creek or have been observed within the vicinity of the project site. Due to a lack of suitable hibernation and nesting habitat, Adobe Creek is identified as marginal habitat for the Western pond turtle, however, it is noted that the species has the potential to occur onsite outside of breeding and hibernation with the nearest documented occurrence being located approximately 0.7 miles from the site and within the vicinity of the Creek.

The open grassy field onsite is identified as marginally suitable habitat for the Burrowing owl, though no burrows were observed during the onsite surveys and no documented occurrences have been identified within five miles of the project site. The project site also contains marginally suitable habitat for the Swainson's hawk as foraging habitat nearby nesting sites are critical for fledgling success. Given the high levels of disturbance associated with agricultural operations it is unlikely that nesting and associated foraging would occur in the vicinity of the project site. One documented occurrence of the Swainson's hawk has been identified within five miles of the project site.

Trees located along the Adobe Creek corridor and the open grassy area provide habitat for roosting and foraging for Pallid bats. Although habitat on the project site is considered marginal, there is a potential for occurrence of the species. Additionally, three occurrences of the Pallid bat have been documented within five miles of the project site.

Nesting Migratory Birds

Birds that are identified as protected under the Migratory Bird Act have the potential to nest on and around the project site within the riparian corridor and the grassy field.

Biological Resources Impact Analysis:

4.4 (a-b) (Special-Status Species and sensitive communities) Less Than Significant with Mitigation: Approximately 0.5-acres of the project site is comprised of Adobe Creek and its associated riparian corridor. This area contains suitable and marginally suitable habitat for several special-status species Though no work is proposed within the Adobe Creek or its riparian corridor, potential impacts could occur during construction activities that if not properly controlled could potentially impact special-status species. **Mitigation Measure BIO-1** requires a minimum 50-foot setback from Adobe Creek which shall be demarcated by silt fencing and shall remain onsite during all site grading and groundwork. The setback will prohibit staging of vehicles and construction equipment adjacent to the riparian corridor, which will reduce potential impacts related to disturbance of the Adobe Creek. Furthermore, **Mitigation Measure BIO-2** requires the removal of Himalayan blackberry and replanting with native vegetation, which would reduce the potential for invasive species to spread onsite and restore the habitat value along the riparian corridor where Himalayan blackberry is dominant. Implementation of BIO-1 and BIO-2 will reduce impacts to the riparian habitat to less than significant levels, and subsequently potential impacts to special-status species who rely on this habitat would also be reduced to less than significant.

Special-status Plant Species
The project site has the potential to support two special-status plant species, including Congested-headed hayfield tarplant and Pacific Grove clover. Though neither of these species were identified during onsite surveys conducted during the respective bloom periods, the known occurrence within the area and the potential for these species to occur onsite could result in a potentially significant impact. In compliance with CDFW protocols, **Mitigation Measure BIO-3** requires that a qualified biologist conduct appropriately timed rare plant bloom surveys on an annual basis throughout the planning stages as well as prior to commencement of ground disturbing activities. In the event that rare plants are observed during the bloom period surveys, Mitigation Measure BIO-3 shall be implemented.

Although past protocol level surveys have yielded negative results, Measure BIO-3 presents protocol to follow in the event that special-status plant species are observed during subsequent rare plant surveys and provides for avoidance of individual populations through site design modifications. Should avoidance be deemed infeasible, BIO-3 requires preparation of a mitigation plan in consultation with the USFWS and CDFW and, as warranted, acquisition of an incidental take permit (ITP, 2081 agreement). Alternatively, at the discretion of the CDFW for state listed species, compensatory credits at an approved mitigation bank, onsite mitigation, or the preservation of offsite habitat may be an acceptable means of mitigation. If the plant identified is a California Native Plant Society (CNPS) Rank 1B species and is not otherwise protected pursuant to state or federal regulation, then measure BIO-5 shall apply.

Mitigation Measure BIO-3 provides provisions in the event that CNPS Rank 1B special-status plant species are detected during future rare plant survey and that avoidance is not feasible. BIO-3 requires the collection and replanting of seeds and topsoil as well as long-term storage and ongoing monitoring for a 5-year period with annual reporting provided to regulatory agencies and the City of Petaluma. Alternatively, for CNPS listed species the City may also choose to accept compensatory credits from an authorized mitigation bank or the preservation of offsite habitat as an acceptable means to mitigate the loss of CEQA protected rare plant species. Implementation of measure BIO-3 ensures that potential impacts to rare plants would reduce impacts to less than significant.

Special-status Animal Species

The Adobe Creek corridor contains suitable habitat for a variety of special-status wildlife species. Presence of Steelhead is limited to the creek channel, which will not be directly or indirectly affected by the proposed project. As described above, measure BIO-1 provides for protection of the Adobe Creek corridor during construction. However, the Foothill yellow-legged frog, California red-legged frog, and Western pond turtle have the potential to occur within the riparian corridor and suitable upland habitat. Though the project site has limited habitat value for these species due to past agricultural, disking and disturbance, should these species be present, construction activities would result in potentially significant impacts. Implementation of **Mitigation Measure BIO-4** requires that a qualified biologist conduct pre-construction surveys no more than five days prior to ground-disturbing activities to identify the presence of these special-status species. Based on results of the surveys, exclusion fencing, which may be satisfied through installation of silt fencing as required by measure BIO-1, shall also be installed. A qualified biologist shall be onsite during installation of exclusion fencing to ensure these species do not become entrapped within the area of disturbance. In addition, at all construction personnel involved in initial site disturbance shall receive an Environmental Awareness Training by a qualified biologist. Implementation of measures BIO-1 and BIO-4 will reduce potential impacts to these special-status wildlife species to less than significant levels.

Special-status and Nesting Birds

Trees along the riparian corridor are identified as areas suitable for nesting of special-status and migratory birds. Though no trees within the riparian corridor are proposed for removal, there is a potential that impacts to nesting birds within the riparian corridor may occur during project construction activities. **Mitigation Measure BIO-5** requires that preconstruction nesting bird surveys be conducted no more than 14 days prior to commencement of ground disturbing activities when construction is proposed to begin during the bird nesting season (February 15 - September 15). Should active nests be identified, a disturbance-free buffer shall be established as appropriate by a qualified biologist. Implementation of measure BIO-5 will ensure that potential impacts to special-status and migratory birds are reduced to less than significant levels.

Special-status Bats

The existing trees and buildings onsite proposed for removal provide potentially suitable roosting habitat for the bats including the pallid bat, which is designated by the State as a species of special concern. CEQA Guidelines Section 15380 protects rare and endangered species, which includes species designated by the CDFW as species of special concern. As such, the harming or killing of these species through destruction of habitat could result in a significant impact. **Mitigation Measure BIO-6** requires that a qualified biologist conduct pre-construction surveys no more than 14 days prior to commencement of ground disturbing activities. Should bats or evidence of bat roosts be observed within structures proposed for demolition, CDFW shall be notified and an appropriate exclusion method shall be established and executed by a qualified biologist. To avoid hibernation and rearing periods, all ground disturbing activity within 50 feet of areas identified as bat habitat shall be

restricted to between August 31st and October 15th or March 1st to April 15th. With implementation of BIO-6, potential impacts to bats including special-status bats will be reduced to less than significant levels.

4.4 (c) (Jurisdictional Waters) Less Than Significant Impact: Adobe Creek is considered a Water of the US and is subject to USACE and RWQCB jurisdiction. No other wetland or jurisdictional features were observed onsite. The project proposes a bioretention basin onsite to capture runoff of stormwater from impervious surfaces that will be installed as part of the project. The bioretention basin will be designed to capture runoff from a minimum storm intensity of 0.2 inches per hour. Stormwater exceeding an intensity of 0.5 inches per hour will bypass the bioretention basin and be routed to the proposed public storm drain system onsite. The excess flow will then be directed to the existing public storm drain located in the Casa Del Oro subdivision, which ultimately outfalls into Adobe Creek in historic drainage patterns. Stormwater runoff within the 50-foot setback from Adobe Creek will flow back into the waterway through historic drainage patterns.[4] The project proposes Low Impact Development (LID) design strategies including permeable pavements which can absorb stormwater at a rate of one inch of water per hour. With implementation of the stormwater control plan as proposed, potential impacts to jurisdictional waters including hydrological interruption to Adobe Creek will be less than significant.

4.4 (d) (Wildlife Movement) Less than Significant Impact: The proposed project does not include modification to the Adobe Creek or its riparian corridor (other than proposed removal of invasive Himalayan Blackberry outside the top of bank). An existing fence is located along the Adobe Creek top of bank, which restricts wildlife movement onto the proposed project site and also allows for the unrestricted movement along the riparian corridor. The 50-foot setback from Adobe Creek proposed by the project provides additional protection to riparian corridor, including the movement of wildlife species. The project will not result in impacts to the Adobe Creek riparian corridor. Furthermore, implementation of mitigation measure BIO-2 will remove invasive Himalayan blackberry and revegetate with native riparian species, thereby enhancing the quality of the riparian habitat. Therefore, the project will have a less than significant impact on wildlife movement.

4.4 (e) (Conflict with Local Policies or Ordinances) Less Than Significant Impact: There are no identified state or federal plans that include the project site for biological priority for protection and/or stewardship. General Plan policy 2-P-106 calls for preservation and improvement of open space resources by enhancing creek ecology along Adobe Creek. Additionally, the Adobe Creek Restoration Plan and Management Program is intended to enhance, restore, and manage the Creek to enhance wildlife function while maintaining adequate capacity for flood control. The project is consistent with General Plan policy 2-P-106 and the intent of the Adobe Creek Restoration Plan and Management Program as it will maintain a 50 foot buffer from the Adobe Creek corridor, precludes activities within the riparian corridor, and replaces invasive blackberry with native plantings (Mitigation Measure BIO-2). As such, the project is consistent with General Plan polices and applicable plans that seek to protect biological resources and will have a less than significant impact due to a conflict with these policies.

As described above, the proposed project includes removal of seven trees, consisting of three giant sequoia, two box elder, one English walnut, and one Siberian elm. None of the trees proposed for removal are considered protected species under the City's Tree Preservation Ordinance and therefore, the project will have a less than significant impact due to a conflict with this ordinance.

4.4 (f) (Conflict with Habitat Conservation Plan) No Impact: There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other regional or state habitat conservation plan that exists for Petaluma. Therefore, no impact would result due to a conflict with such plans.

Biological Resources Mitigation Measures:

BIO-1: To minimize potential impacts to the Adobe Creek habitat area, a 50-foot setback shall be established from the edges of the riparian corridor. The established setback shall be confirmed by a qualified biologist prior to approval of grading permits. The setback shall be demarcated by silt fencing and shall remain onsite until all grading and groundwork is complete. Staging of vehicles, construction equipment, and other materials within the 50-foot setback area shall be prohibited.

[4] Preliminary Stormwater Control Plan, prepared by Steven J. Lafranchi and Associates, Inc., October 9, 2019.

BIO-2: To increase the quality of the riparian habitat, non-native Himalayan blackberry shall be removed by hand along the edge of the Adobe Creek corridor. Bare ground in areas cleared of invasive vegetation shall be replanted with native vegetation, as recommended by a qualified biologist. Following construction of the project, control of Himalayan blackberry populations along the riparian corridor shall occur annually through hand-clearing for a period of no less than three years.

BIO-3: Rare plant bloom surveys shall be conducted by a qualified biologist yearly throughout the project planning stages and prior to commencement of ground disturbing activities to determine if special-status plant species with the potential to occur onsite are present. Surveys shall be conducted within the bloom period of the identified plant species and results shall be submitted in writing to the City of Petaluma. Should special-status plant species be observed onsite, a 25-foot no disturbance buffer, demarcated with high visibility fencing, shall be installed around the population. In the event that special-status plants are located within areas proposed for development, the applicant shall consult with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife to identify further mitigation required.

In the event that the special-status survey identifies presence of rare plants, then areas onsite where special status species are present shall be avoided through site design modifications that preclude development into sensitive habitat areas. In the event that avoidance cannot be achieved then a mitigation plan shall be developed in consultation with USFWS and CDFW. If the plant is state listed (CESA) then an incidental take permits (ITP, 2081 agreement) shall be acquired from the CDFW prior to any grading activity. All provisions of the ITP shall be verified by the City prior to the issuance of grading permits. Alternatively, at the discretion of CDFW for state listed species, compensatory credits at an approved mitigation bank or the preservation of offsite habitat may be determined to be an acceptable means of mitigation. Proof of the purchase of mitigation credits shall be provided to the City prior to issuance of grading permits.

In the event that the special-status survey identifies presence of a CNPS Rank 1B or 2 plant species and removal cannot be avoided, then a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Luther Burbank Home & Gardens).

The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) at an off-site protected property. The applicant shall retain a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City and appropriate resource agency (CDFW and/or USFWS) no later than December 1st each monitoring year. Alternatively, at the discretion of the City for CNPS species, compensatory credits at an approved mitigation bank or the preservation of offsite habitat may be determined to be an acceptable means of mitigation. Proof of the purchase of mitigation credits shall be provided to the City prior to issuance of site grading permits.

BIO-4: No more than five days prior to commencement of ground disturbing activities, a qualified biologist shall conduct a pre-construction survey for Foothill yellow-legged frog, California red-legged frog, and Western pond turtle, results shall be submitted in writing to the City of Petaluma. To minimize the potential of these species entering areas of ground disturbance, exclusionary fencing shall be installed. A qualified biologist shall be onsite during installation of fencing to ensure species do not become entrapped within areas of disturbance.

Prior to commencement of ground disturbing activities, a qualified biologist shall conduct an Environmental Awareness Training to construction personnel for Foothill yellow-legged frog, California red-legged frog, and Western pond turtle. The training shall include presentation and distribution of materials that contain, at a minimum, information related to habitat requirements, life history, and actions to be taken for each species in the event that they are observed onsite. Proof of the training

shall be kept on the project site throughout the course of ground disturbing construction activities and shall be provided to the City upon request.

BIO-5: Should construction activities commence during the bird nesting season (February 15 to September 15), a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests. Should active nests be identified, a disturbance-free buffer shall be established based on the needs of the species identified and shall be maintained until a qualified biologist verifies that the nestlings have fledged, or the nest has failed. Should construction activities cease for 14 consecutive days or more within the nesting season, an additional nesting bird survey shall be required prior to resuming ground disturbing activities. Results of the nesting bird survey shall be submitted in writing to the City of Petaluma.

BIO-6: To avoid impacts to special-status bats, a qualified biologist shall conduct a pre-construction survey of the structures and trees that would be impacted by the project no more than 14 days prior to demolition or commencement of ground disturbing activities. Results of the survey shall be documented and provided in writing to the City of Petaluma. To avoid hibernation and rearing periods, ground disturbance occurring within 50 feet of areas identified as pallid bat habitat shall be restricted to between August 31st and October 15th, or between March 1st and April 15th. If bats, or evidence of bat roosting, is observed within structures proposed for demolition, CDFW shall be notified and an appropriate exclusionary method shall be implemented. Exclusion methods may include one-way exits from roost habitat. All exclusion methods shall be facilitated by a qualified biologist and shall not occur outside of the date ranges listed above to avoid exclusion of habitat during hibernation or rearing.

4.5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; and Cultural Resources Letter Report, prepared by Analytical Environmental Services, May 14, 2019.

Cultural Resources Setting: Petaluma's historic and cultural resources contribute to the city's unique character and identifiable sense of place. The City of Petaluma and vicinity contain cultural resources that date to the inhabitation of the Coastal Miwok Tribe and a number of resources that visibly chronicle the evolution of the City from early settlement, agricultural development, and through present day. Such resources include buildings, structures, landscapes, sites, and objects. The history of Petaluma is present in the contemporary landscape and the unique character that arises from the side by side existence of new and old. Petaluma's historical resources are preserved and encouraged through policies and programs that serve to maintain the historic character.

Cultural Resources Report

Analytical Environmental Services prepared a Cultural Resources Report for the project on May 19, 2020 (**Appendix C,** confidential). The purpose of the Report is to analyze potential impacts of the proposed project

on historic and cultural resources. The analysis included a search of applicable records, contact with the Native American Heritage Commission (NAHC), and a field survey.

A records search was completed at the Northwest Information Center (NWIC) for the project site and areas within one-half mile to determine whether cultural resources have been recorded within or adjacent to the study area, whether the parcel has been surveyed for cultural resources in the past, to assess the likelihood of unrecorded cultural resources to be present on the site, and to review the distribution of nearby archaeological sites relative to their environmental setting.

The records search 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 a review of historic maps. The search found eight sites within the City of Petaluma listed on the NRHP, and one listed as a California Historic Landmark, however, none are located on or near the project site. The records search also identified that a total of ten archaeological surveys had been completed within one-half mile of the project site. These previously conducted surveys identified three cultural resources within one-half mile, though none are located on or immediately adjacent to the project site. A review of historic maps and aerial imagery indicates that the existing structures were present onsite as early as 1942. Additionally, aerial imagery indicates surrounding uses were primarily agricultural until the early 1980's, after which residential subdivisions became the predominate land use in the project vicinity.

On April 19, 2019 AES sent a record search request to the Native American Heritage Commission. No records were found in the Sacred Lands Files as a result of the records search.

A field survey was conducted by AES on April 22, 2019 and included an evaluation of the two existing residences, accessory structures, and examination of the visible ground surface. As stated in the Report, the existing residence, located on the southern portion of the project site, dates to sometime around 1942 and displays architectural features generally associated with rural residences from the first half of the 20th century. During the field survey, fragments of clamshells and bones were observed near the residence located on the northern portion of the project site and were identified as likely being associated with a trash deposit from the original residence. No charcoal, glass, cans, or other debris were observed during the site survey. The eastern portion of the site had minimal visibility due to existing cover crops and dense vegetation and fencing surrounding the Adobe Creek corridor.

Cultural Resources Impact Analysis

4**.5 (a) (Historical Resource) Less than Significant Impact:** The project site is not located within a historic district nor does it contain a designated historic landmark. Based on available topographic and aerial maps, the original residence located at the southern portion of the site dates to 1942 or earlier. Though the structure is dilapidated, it is identified as being generally associated with rural residences constructed in the 20th century with tongue-in-grove wood siding and a gabled roof form. Despite its conveyance as a typical 20th century rural residence, the structure is not associated with specific events in California history (criteria 1), is not associated with specific individuals important to California history (criteria 2), does not display distinctive architectural value (criteria 3), and does not have the potential to yield information that would be important to local history (criteria 4). As such, the structure is not identified as eligible for listing as a historic resource at the local, state, or national level, nor does it represent or convey any important architectural, visual, or cultural features that are important in preserving the historic character of the existing neighborhood. As such, demolition of the onsite buildings and structures including the original residence will have a less than significant impact on historical resources.

4.5 (b) (Archaeological Resources) Less than Significant with Mitigation: The City of Petaluma has a rich archeological history due to the presence of the Coast Miwok Indians prior to European settlers in California. As such, undisturbed lands within the Urban Growth Boundary, particularly lands in the vicinity of ridgetops, midslope terraces, alluvial flats, ecotones, and sources of water have a greater possibility of containing prehistoric archaeological resources. Potentially significant archeological resources include, but are not limited to concentrations of artifacts or culturally modified soil deposits, modified stone, shell, bone, or other cultural or tribal cultural materials such as charcoal, ash, and burned rock indicative of food procurement, processing activities, or prehistoric domestic features including hearths, fire pits, house floor depressions, or other such

historic artifacts (potentially including trash pits and all by-products of human land use greater than 50 years of age).

As presented in the Cultural Resources Report, no archeological resources were identified during the site survey. Furthermore, the NWIC records and the NAHC records search did not identify the presence of cultural resources within the project site. Although records review and onsite surveys yielded negative results, the project site is located adjacent to the Adobe Creek which indicates an elevated potential to encounter buried cultural resources during ground disturbing construction activities. In order to avoid inadvertently causing a substantial adverse change in the significance of an archaeological resource **Mitigation Measure CUL-1** shall be implemented. Measure CUL-1 requires that, in the event that potential archaeological resources are encountered, all work within 100 feet of the find shall be halted and a qualified archaeologist shall evaluate the find. Additionally, CUL-1 establishes procedures to follow in the event that archeological resources are encountered, consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Section 15064.5. With implementation of CUL-1 potential impacts to archeological resources will be less than significant.

4.5 (c) (Human Remains) Less than Significant: No evidence suggests that human remains have been interred within the boundaries of the project site. However, in the event that during ground disturbing activities, human remains are discovered to be present, all requirements of state law pursuant to California Health and Safety Code Section (CA HSC) 7050.5 shall be duly complied with, 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 it is determined by the Coroner that the discovered remains are of Native American descent, the Native American Heritage Commission shall be contacted immediately. If required, the project sponsor shall retain a City-qualified archeologist to provide adequate inspection, recommendations and retrieval. Compliance with CA HSC Section 7050.5 and performance of actions therein will ensure that in the event of accidental discovery of historically significant remains all impacts will remain at levels below significance.

Cultural Resources Mitigation Measures:

CUL-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).

4.6. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable	☐	☐	☒	☐

energy or energy efficiency?

Sources: General Plan and EIR; BAAQMD 2017 Bay Area Clean Air Plan; Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared by the Sonoma County Regional Climate Protection Authority, July 2016; and California Energy Consumption Database, Electricity and Natural Gas Consumption by Sonoma County 2018.

Energy Setting: Energy resources include electricity, natural gas and other fuels. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. Energy production and energy use both result in the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants. Energy usage is typically quantified using the British Thermal Unit (BTU). The BTU is the amount of energy that is required to raise the temperature of one pound of water by one-degree Fahrenheit. As points of reference, the approximate amount of energy contained in a gallon of gasoline, 100 cubic feet (one therm) of natural gas, and a kilowatt hour of electricity are 123,000 BTUs, 100,000 BTUs, and 3,400 BTUs, respectively.

In May 2018 the California Energy Commission adopted the 2019 Building Energy Efficiency Standards (Title 24, Part 6 of the CCR). These new standards address energy efficiency at the State level and go into effect on January 1, 2020. The new standards focus on four key areas: smart residential photovoltaic systems; updated thermal envelope standards, which prevent heat transfer from the interior to exterior and vice versa; residential and nonresidential ventilation requirements; and nonresidential lighting requirements. The 2020 building standards require that solar photovoltaic systems be installed on new single-family residences, multi-family buildings, hotels/motels, and non-residential buildings.

California Energy Consumption

According to the California Energy Commission (CEC), total system electric generation for California in 2018 was 285,488 gigawatt-hours (GWh)[5], down two percent from 2017. California's non-CO2 emitting electric generation categories (nuclear, large hydroelectric, and renewable generation) accounted for approximately 53 percent of total in-state generation for 2018. California's in-state electric generation was 194,842 GWh and electricity imports were 90,648 GWh. In 2018, the CEC reports Sonoma County had a total electricity consumption of 2,914 GWh.

According to the CEC, approximately 45 percent of the natural gas burned in California was used for electricity generation totaling 90,691 GWh or 3.09 billion therms. The remainder of natural gas consumed was in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Natural gas is used for many activities including generating electricity for cooking and heating, as well as an alternative transportation fuel.[6] In 2018, the CEC reports Sonoma County had a total gas consumption of 111 million of therms.

Transportation accounts for a large portion of California's overall energy consumption. Gasoline remains the dominant fuel type within the transportation sector, followed by diesel and aviation fuel. In 2015, California consumed approximately 15 billion gallons of gasoline and approximately 4.2 billion gallons of diesel fuel.[7] An increasing amount of electricity is also being used for transportation energy, which is attributed to the acceleration of light-duty plug-in electric vehicles.

Sonoma Clean Power

Sonoma Clean Power is a program that allows businesses and residents in Mendocino and Sonoma Counties to purchase energy created from renewable resources, including geothermal, solar, wind, water, and biomass. This service provides energy through alternative generation processes while using existing infrastructure through PG&E for delivery. By using existing delivery infrastructure, Sonoma Clean Power is billed to customers through PG&E for providing electric generation service. In 2016, 88% of eligible customers were receiving

[5] *California Energy Commission, Total System Electric Generation (2018) energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2018-total-system-electric-generation, accessed August 26, 2020*
[6] *California Energy Commission, Supply and Demand of Natural Gas in California energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california, accessed August 26, 2020*
[7] *California Energy Commission, Transportation Energy, https://www.energy.ca.gov/data-reports/energyalmanac/transportation-energy, accessed December 23, 2019*

electricity from Sonoma Clean Power. As of 2018 Sonoma Clean Power had 39% fewer greenhouse gas emissions as compared to PG&E.[8]

City of Petaluma

Households, businesses, industry, public service systems and other operators within the City of Petaluma rely on a variety of energy resources (fuels, photovoltaic, natural gas, oil, coal, etc.) to provide energy for lighting, cooking, heating and cooling, and to operate vehicles. These energy resources are fundamental to exercising the daily life, leisure, and business activities in and around the City of Petaluma. According to the Sonoma County Regional Climate Action Plan, in 2010 the City of Petaluma's annual household consumption rate was 6,000 kwh (electricity) and 493 therms (natural gas).

The General Plan contains goals, policies and programs to reduce energy consumption. Chapter 2: Community design, Character, and Green Building identifies sustainable building strategies and practices, which minimize energy consumption. Chapter 4: The Natural Environment contains policies and programs to reduce reliance on non-renewable energy sources in existing and new development. Energy policies supporting alternative and efficient transportation systems, and the reduction of energy consumption in buildings by means of appropriate design and orientation are identified in Section 3.3: Sustainable Building and Chapter 5: Mobility. Residential energy efficiency is addressed in Chapter 11: Housing Element. Through adoption of Ordinance No. 2708 N.C.S. in 2020, the City Council adopted the Tier 2 CalGreen Standards to meet higher levels of building energy efficiency.

The following General Plan Policies related to energy resources are particularly applicable to the subject project:

- Policy 4-P-15D: Reduce emissions from residential and commercial uses by requiring the following:
    - Use of high efficiency heating and other appliances, such as cooking equipment, refrigerators, and furnaces, and low NOx water heaters in new and existing residential units;
    - Compliance with or exceed requirements of CCR Title 24 for new residential and commercial buildings; and
    - Incorporation of landscaping conducive to passive solar energy use for residential uses, i.e., landscaping with drought resistant species

The City of Petaluma has also taken steps to address GHG emissions within city limits, which in turn reduces energy consumption. See Section 4.8 Greenhouse Gas Emissions for more information.

Energy Impact Analysis:

4.6 (a) (Wasteful, Inefficient, Unnecessary Consumption of Energy) Less Than Significant Impact: Development of the proposed project would involve the use of energy during construction and at operation. Site preparation, grading, paving, and building construction would consume energy in the form of gasoline and diesel fuel through the operation of heavy off-road equipment, trucks, and worker trips. However, consumption of such resources would be temporary and would cease upon the completion of construction. Furthermore, the project will be required to implement Mitigation Measure AQ-1, which includes BAAQMD best management practices that would minimize the inefficient, wasteful, and unnecessary consumption of energy during construction by limiting idling times and requiring that all construction equipment be maintained and properly tuned in accordance with manufacturer's specifications. As such, construction-related energy impacts would be less than significant.

Long-term energy use will result from operation of the 36-unit residential unit project and includes electricity consumption typically associated with residential uses such as lighting, electronics, heating, air conditioning, and refrigeration, as well as energy consumption related to water usage, wastewater conveyance and treatment, solid waste disposal, and fuel consumption by vehicles associated with the project.

The City of Petaluma requires that all new development demonstrate compliance with CalGreen Tier 2 Building standards, which generally achieve energy efficiency approximately 30% beyond Title 24 as well as a

[8] Sonoma Clean Power 2019 Annual Report, https://vimeo.com/379072737, accessed June 22, 2020.

construction waste reduction rate of 45%. CalGreen Tier 2 reduces energy consumption for heating, air conditioning, and ventilation and requires use of low-water irrigation systems, water efficient appliances and faucets, cool roofs, short- and long-term bicycle parking, electric vehicle charging spaces, outdoor energy performance lighting and other mandatory energy efficiency measures. Prior to issuance of a building permit, the proposed new residential structures and associated site improvements will be required to demonstrate compliance with CalGreen Tier 2 standards.

Landscaping has been designed to minimize water demand, which achieves energy conservation by limiting energy needs associated with water treatment, transport, and irrigation. Proposed landscaping includes a mix of native and non-native low to moderate water usage trees, shrubs, grasses, perennials, and groundcovers located throughout the site. The proposed bioretention basin and stormwater treatment basin will be planted with low water usage native species. Additionally, a number or street trees will be planted along Casa Grande Road as well as the new public road which bisects the project site, which will enhance the tree canopy, provide shading, and ultimately reduce energy costs associated with cooling.

While the long-term operation of the project would result in an increase in energy consumption compared to existing conditions, the project will incorporate design measures related to electricity and water use in compliance with CalGreen, the General Plan, and the Petaluma IZO to minimize energy consumption. Furthermore, Sonoma Clean Power is the default provider in the City of Petaluma and would provide clean energy from renewable resources. The project is a residential subdivision that will introduce 36 new single-family homes on a site in close proximity to existing residential uses, recreational opportunities, schools, employment centers, and retail locations. Therefore, operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy and impacts would be less than significant.

4.6 (b) (Conflict with State or Local Plan) Less than Significant Impact: The proposed project would have a less than significant impact due to a potential conflict with the Bay Area 2017 Clean Air Plan. The project's land use and development intensity are consistent with that assumed by the General Plan for the project site. There are no other control measures of the 2017 CAP that apply to the project. Therefore, the project will not conflict with or obstruct implementation of the Bay Area 2017 Clean Air Plan.

In December 2007, the California Energy Commission prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies.[9] The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

The Petaluma General Plan Goal 4-G-4 requires the City to reduce its dependency on non-renewable energy sources in existing and proposed developments. Policy 4-P-18 establishes several approaches to lower energy consumption, beginning by utilizing energy building standards that exceed Title 24 "Energy Efficiency Standards for Residential and Nonresidential Buildings." As described above, the City of Petaluma requires new construction to achieve CalGreen Tier 2 standards which reduce energy consumption and achieve energy efficiency approximately 30% beyond Title 24 as well as a construction waste reduction rate of 45%.

On May 6, 2019, the City of Petaluma adopted a Climate Emergency Resolution. The Resolution elevates climate issues to the highest priority and establishes a commitment to achieving carbon neutrality as quickly as possible and by no later than 2045. Furthermore, the Resolution established the Climate Action Commission which serves to guide policy direction on climate action in the City.

As a 36-unit residential development that would be subject to CalGreen Tier 2 standards, the proposed project would not conflict with or obstruct implementation of the State Alternative Fuels Plan or local policies regarding energy efficiency and therefore impacts would be less than significant.

[9] *California Energy Commission, Final Adopted State Alternative Fuels Plan, Adopted December 2007, http://www.energy.ca.gov/ab1007/, Accessed September 12, 2008.*

Energy Mitigation Measures: None required.

4.7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Publication 42.	☐	☐	☐	☒
ii. Strong Seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Sources: Petaluma 2025 General Plan and EIR; GP DEIR Fig. 3.7-5 Geologic Hazards; GP DEIR Fig. 3.7-4 Ground shaking Intensity; Missing link between the Hayward and Rodgers Creek faults, Science Advances, Oct. 2016; and Geotechnical Investigation prepared by PJC & Associates, Inc., September 27, 2019.

Geology and Soils Setting: The City of Petaluma is located within California Building Code (CBC) Seismic Zone 4 and is susceptible to the effects of regional seismic activity that in the past has produced moderate to strong ground shaking reaching intensity levels of V to VIII according to the modified Mercalli scale. The nearest known active fault trace identified by the state under the Alquist-Priolo Earthquake Fault Zoning Act of 1972 is the Rodgers Creek segment of the Hayward- Rodgers Creek Fault Zone. The traces of the Rodgers Creek Fault have not been active within the last 200 years but have exhibited activity within the last 11,000 years. There are no earthquake fault zones and no known active faults within the City's UGB. Nonetheless, seismic events in the region have the potential to result in geologic hazards from strong seismic ground shaking.

Expansive soils present geological considerations within the City of Petaluma. The clay-rich soils in Petaluma typical of low-lying regions and valley floodplains tend to shrink or swell according to fluctuations in moisture content. Without proper geotechnical considerations, buildings, utilities and roads can be damaged by

expansive soils due to soil properties that can cause cracking, settling and weakening of foundations. To reduce the potential risks posed by the presence of expansive soils, the City's Building Code requires that any construction site that is intended for human occupancy and suspected to contain expansive soils be investigated and mitigated accordingly.

The City's General Plan DEIR Figure 3.7-5 identifies the geologic hazard areas of the City and Figure 3.7-4 identifies the ground shaking intensity. The subject site is located inside an area with elevated risk for moderate liquefaction potential and violent shaking of structures (Mercalli Intensity 9) in the event of an earthquake.

A site-specific Geotechnical Investigation was prepared by PJC & Associates in September 2019 to identify potential geological risks (**Appendix D**). The soils report is informed by eight test borings that were drilled to depths of approximately 50 feet. The primary geotechnical concerns of the site are associated with surface conditions that exhibit weak soils that may compress under considerable loads as well as highly expansive soils that shrink and swell with changes in soil moisture content.

Geology and Soils Impact Discussion:

4.7 (a.i.) (Faults) No Impact: Fault rupture occurs when the ground surface fractures from fault movement during an earthquake and almost always follows preexisting fault traces, which are zones of weakness. Given that the project site does not overlap with an Alquist-Priolo Earthquake Fault Zone and no identified active faults traverse the site, there is no expectation that the site would be vulnerable to fault rupture. There is no risk of fault-related ground rupture during earthquakes within the limits of the site due to a known Alquist-Priolo Earthquake Fault Zone. Therefore, there are no impacts due to a fault rupture at the project site.

4.7 (a.ii) (Ground-Shaking) Less than Significant Impact: The intensity of earthquake motion will depend on the characteristics of the generating fault, distance to the fault and rupture zone, earthquake magnitude, earthquake duration, and site-specific geologic conditions.

The proximity of the City's UGB to the Hayward Rodgers Creek Fault Zone places it within Zone 9, "Violent" on the Mercalli Intensity Shaking Severity level. The project site is located approximately 2.3 miles to the Rodgers Creek Fault to the northeast, 16.7 miles to the San Andreas Fault to the southwest, 15.6 miles to the West Napa Fault to the east. As such, the project site holds potential to expose people and structures to potentially substantial adverse effects resulting from strong seismic ground shaking. The resultant vibrations would likely cause primary damage to buildings and infrastructure with secondary effects being ground failures in loose alluvium and poorly compacted fill. Both the primary and secondary effects of seismic activity pose a risk of loss of life or property.

Conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) will ensure that potential impacts from seismic shaking are less than significant.

4.7 (a.iii) (Ground Failure, Including Liquification) Less than Significant Impact: Seismically induced ground failure can occur during strong earthquakes, which could potentially expose people and property to risks. Liquefaction is the rapid transformation of saturated, loosely packed, fine grained sediment to a fluid like state as a result of ground shaking. As shown on General Plan EIR Figure 3.7-4, the potential for liquification at the project site is moderate. The project's Geotechnical Investigation evaluated the potential for liquefaction of the strata. Based upon the relatively high densities of granular soils and high malleability of clay soils, the project's underlying strata are not prone to liquefaction. Given the site's soil characteristics to resist ground failure, the potential impacts associated with liquefaction will be less than significant.

4.7 (a.iv) (Landslides) No Impact: Landslides can occur from ground shaking and the presence of liquefied subsurface materials. Landslides are typically limited to slopes steeper than 15% and confined to areas underlain by geologic units that have demonstrated stability problems in the past. The project site is generally flat and is not at risk of exposure to landslides. Therefore, potential impacts associated with landslides will be less than significant.

4.7 (b) (Erosion) Less than Significant Impact with Mitigation: Preparation for site grading will involve demolition of the existing structures, removal of vegetation and root systems, and excavation of the undocumented fill. Development of the project has the potential to result in soil erosion if not properly controlled. To ensure potential impacts related to soil erosion are reduced to levels below significant, **Mitigation Measure 0**, which requires the applicant to submit an erosion control plan identifying measures to be implemented during construction and establishing provisions for grading activity during the rainy season shall be implemented. With implementation of GEO-1, impacts associated with soil erosion will be reduced to less than significant levels.

4.7 (c) (Unstable Geologic Unit) Less than Significant Impact: The project site is generally flat and exhibits a minimal grade with no apparent soil migration within the project site boundaries. No signs of soil creep or lateral spreading are readily apparent on or near the project site. The project site located in an area that may susceptible to lateral spreading given the project's proximity to Adobe Creek. However, the residential component of the project will occur outside of the creekbank and therefore reduce the soil stress adjacent to the creek that may lead to lateral spreading. Adherence to standard CBC stipulations are sufficient to ensure that impacts related to landslides, lateral spreading, subsidence, and collapse would remain at less than significant levels with the introduction of the proposed development. Therefore, the project would have less than significant impacts due to the presence of a geologic unit or soil that is unstable, or that would become unstable as a result of the project.

4.7 (d) (Expansive Soils) Less than Significant Impact with Mitigation: Expansive soils are a concern within the Urban Growth Boundary including the project site. In order to ensure that the presence of expansive soils does not result in significant impacts, recommendations set forth in the Soil Investigation Report and as directed by the City Engineer shall be implemented in accordance with **Mitigation Measure GEO-2**. Measures to correct expansive soils include but are not limited to pre-watering prior to the placement of foundations, removal of expansive material and replacement with non-expansive fill, and/or the use of soil stabilizers. With implementation of measure GEO-2 potential impacts due to the presence of expansive soils will be reduced to less than significant.

4.7 (e) (Septic Tanks) No Impact: The proposed project will be connected to the existing sewer system that treats all wastewater effluent generated within the UGB. There are no septic tanks or alternative wastewater disposal systems proposed as part of the project. Therefore, there will be no impact resulting from the adequacy of soils to support septic tanks or other wastewater disposal system.

4.7 (f) (Paleontological Resources) Less than Significant Impact: The Petaluma General Plan does not identify the presence of any paleontological or unique geological resources within the boundaries of the UGB. The project site has experienced ground disturbance from previous development activities and the proposed development will not extend to depths were such resources are typically encountered. As such, there is limited potential for paleontological resources to be present on the project site. Given the project's location and application of a condition addressing accidental discovery, the project is not expected to result in a substantial adverse change to unique paleontological or geologic resources and impacts will be less than significant.

Geology and Soils Mitigation Measures:

GEO-1: Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City Engineer for review. All earthwork, grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City of Petaluma's Grading and Erosion Control Ordinance #1576, Title 17, Chapter 17.31 of the Petaluma Municipal Code. These plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.

GEO-2: Prior to issuance of a grading permit, a soils and geological report shall be submitted to the City Engineer for review pursuant to the City of Petaluma's Ordinance #1576, Title 17, Chapter 17.31.180. The soils report shall detail the strength and characteristics of the soils onsite and provide conclusions and recommendations for grading procedures and design criteria as appropriate. Techniques used to correct expansive soils include controlled pre-watering prior

to the placement of foundations, removal of expansive material and replacement with non-expansive fill, and/or the use of soil stabilizers.

4.8. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Sources: 2025 General Plan and EIR; Climate Action 2020 and Beyond Sonoma County Regional Climate Action Plan, July 2016; 2017 BAAQMD CEQA Guidelines; CalGreen Tier 2 Residential Measures Effective January 1, 2017, California Department of Housing and Community Development.

Greenhouse Gas Setting: Greenhouse gases (GHGs) are generated from natural geological and biological processes and through human activities including the combustion of fossil fuels and industrial and agricultural processes. GHGs include carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), chlorofluorocarbons, hydrofluorocarbons and perfluorocarbons.

While GHGs are emitted locally they have global implications. GHGs trap heat in the atmosphere, which heats up the surface of the Earth. This concept is known as global warming and is contributing to climate change. Changing climatic conditions pose several potential adverse impacts including sea level rise, increased risk of wildfires, degraded ecological systems, deteriorated public health, and decreased water supplies.

To address GHG's at the State level, the California legislature passed the California Global Warming Solutions Act in 2006 (Assembly Bill 32), which requires that statewide GHG emissions be reduced to 1990 levels by 2020. Executive Order S-3-05 provides the California Environmental Protection Agency with the regulatory authority to coordinate the State's effort to achieve GHG reduction targets. S-3-05 goes beyond AB 32 and calls for an 80 percent reduction below 1990 levels by 2050. Senate Bill 375 has also been adopted, which seeks to curb GHGs by reducing urban sprawl and vehicle miles traveled.

The City of Petaluma has taken steps to address GHG emissions within city limits. The City adopted Resolutions 2002-117, 2005-118, and 2018-009 (incorporated herein by reference), which calls for the City's participation in the Cities for Climate Project effort and established GHG emission reduction targets.

A Climate Action Plan has been prepared in partnership with the County and other local jurisdictions (July 2016). This effort implements General Plan Policy 4-P-27. A number of General Plan policies serve to reduce GHG emissions associated with project construction, design and operation. General Plan Goal 5-G-8, which calls for the City to "expand the use of alternative modes of mobility serving regional needs," is being implemented in part through the Sonoma Marin Area Rail Transit (SMART) Plan, which as of Fall 2017 provides light rail commuter service to Petaluma. The light rail effort is estimated to take more than 1.4 million car trips off Highway 101 annually and reduce GHGs by at least 124,000 pounds per day. In addition, General Plan policy 3- P-127 requires that projects prepare a Construction Phase Recycling Plan that would address recycling of major waste generated by demolition and construction activities. This requirement is also a standard under the CalGreen Building Code and is implemented as part of the building permit process.

The City of Petaluma requires that all new development demonstrate compliance with CalGreen Tier 2 Building standards, which generally achieve energy efficiency approximately 30% beyond Title 24 as well as a construction waste reduction rate of 45%. As such, new development is expected to be more energy efficient, use fewer resources, and emit fewer GHGs.

On January 22, 2018, the City of Petaluma adopted Resolution No. 2018-009 N.C.S reaffirming the City's intent to reduce greenhouse gas emissions as part of a coordinated effort through the Sonoma County Regional Climate Protection Authority. As presented in the Sonoma County Climate Action Plan, the City of Petaluma could achieve GHG reduction through a combination of state, regional and local measures. Reduction measures at the state level are promulgated through state laws and mandates addressing topics, including but not limited to vehicle fuel efficiency standard, green building standards, low carbon fuel standards and the Renewable Portfolio Standard. When realized locally in Petaluma, these measures will achieve a GHG reduction in the amount of 119,000 metric tons of carbon dioxide equivalent ($MTCO_2e$). Separate regional efforts implemented within Petaluma by entities such as the Regional Climate Protection Authority, Sonoma Water (formerly Sonoma County Water Agency), County of Sonoma Energy Independence Office, Sonoma County Transportation Authority, and Sonoma Clean Power will result in an additional GHG reduction of 28,200 $MTCO_2e$. Under the City of Petaluma's authority, the Sonoma County Climate Action Plan identifies 12 goals and 24 measures that would achieve an additional GHG reduction of 18,490 $MTCO_2e$. Taken altogether, the state, regional and local measures combined can achieve a GHG reduction of 166,350 $MTCO_2e$ within Petaluma.

Under a business as usual approach (i.e., without state, regional or local GHG reduction measures), the City of Petaluma is projected to emit 542,970 $MTCO_2e$ by 2020. With implementation of reduction measures, GHG emissions would be reduced to 376,620 $MTCO_2e$. This represents a 31% reduction of GHG emissions relative to the 1990 per capita emission levels. The Sonoma County Regional Climate Action Plan is an advisory document to assist the City in achieving its stated intent to reduce GHG emissions. Development projects within the City of Petaluma are encouraged to comply with the intent of the Climate Action Plan and realize GHG reductions through voluntary application of reduction measures.

On May 6, 2019, the City of Petaluma adopted a Climate Emergency Resolution. The Resolution recognizes scientific findings and social implications related to global warming while calling for citywide emergency actions to reduce greenhouse gas emissions. A Climate Action Commission was appointed to help craft policies for recommendations to the City Council, coordinate workshops with experts on climate change, encourage community involvement, and identify best practices to address climate change that can be applied in Petaluma.

Greenhouse Gas Impact Analysis

4.8 (a) (Significant GHG Emissions) Less than Significant Impact: Greenhouse gas emissions associated with the proposed project would result from short-term construction activities and ongoing operation. BAAQMD "screening criteria" provide a conservative estimate above which a project would be considered to have a potentially significant impact to air quality, including a potential to generate greenhouse gas emissions that could cause a significant environmental impact. Projects that are below the screening criteria levels are reasonably expected to result in less than significant impacts to greenhouse gases since pollutant emissions would be minimal. When projects fall below the screening criteria levels, a quantitative analysis of the project's air quality emissions is not required.

Based on screening criteria provided in the BAAQMD 2017 CEQA Guidelines, and as presented in Table 2 above (Chapter 4.3 Air Quality), the operational GHG screening level criteria for a single-family residential development is 56 dwelling units. The project proposes the development of 36 single-family units, which is well below the GHG screening size. Furthermore, with implementation of required Tier 2 building standards and the ability for residents to enroll in Sonoma Clean Power, GHG emissions from operation of the proposed project will be further reduced. As such, it can be conclusively determined that the proposed project would have a less than significant impact due to GHG emissions.

4.8 (b) (GHG Plan Conflict) Less than Significant Impact: The proposed project is consistent with applicable GHG regulations and General Plan policies. The project is required to comply with the CalGreen Building Tier 2 standards and latest Building & Energy Efficiency Standards. The project proposes design features which are intended to achieve a neighborhood of net-zero energy including renewable energy generation and storage capabilities, installation of electric vehicle-charging stations in private garages, increased building insulation and high-performance windows, energy efficient appliances, and LED lighting. Additionally, the project includes water efficient landscaping and complies with the maximum applied water allowance and the City's water conservation regulations. As proposed, the project is consistent with relevant General Plan policies and GHG regulations.

Therefore, potential impacts due to the generation and emission of greenhouse gases would be less than significant.

Greenhouse Gas Mitigation Measures: None required.

4.9. HAZARDS/HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☒	☐
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 of public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	☐	☐	☐	☒

Sources: Petaluma 2025 General Plan and EIR; Phase I Environmental Site Assessment, Prepared by Analytical Environmental Services, May 2019; Phase II Limited Sampling Report, Prepared by Analytical Environmental Services, June, 2020; Stormwater Control Plan for a Regulated Project DRG Casa Grande, prepared by Steven J. Lafranchi & Associates, October 9, 2019

Hazards/Hazardous Materials Setting: Regulations governing the use, management, handling, transportation and disposal of hazardous materials and waste are administered by federal, state and local governmental agencies. Federal regulations governing hazardous materials and waste include the Resource Conservation,

and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Amendments and Re-authorization Act of 1986 (SARA).

In California hazardous materials and waste are regulated by the Department of Toxic Substances (DTSC). Pursuant to the California Planning and Zoning Law the DTSC maintains a hazardous waste and substances site list, also known as the "Cortese List." The Secretary for Environmental Protection established the Unified Hazardous Materials and Hazardous Waste Management Program, also known as "Unified." The Unified program is intended to consolidate and ensure consistency in the administration of requirements, permits and inspections for six programs, including the Underground Storage Tank (UST) program.

The six programs established by the Unified Program are administered and implemented locally through "Certified Unified Program Agencies" (CUPA). The Petaluma CUPA manages the acquisition, maintenance and control of hazardous materials and waste generated by industrial and commercial business under the auspices of the Petaluma Fire Department. Under CUPA, projects that intend to store, transport or generate hazardous waste must apply for and obtain a permit and submit a Hazardous Materials Release Response Plan and Inventory on an annual basis.

Phase I Environmental Site Assessment

In accordance with the guidelines of the American Society of Testing and Materials (ASTM) Standard Practice E1527-13, Analytical Environmental Services prepared a Phase I Environmental Site Assessment (ESA) for the project site in May 2019 (**Appendix E**). The purpose of the Phase I ESA is to identify the presence or likely presence of any hazardous substances or petroleum products on the property, referred to as Recognized Environmental Conditions (REC), that may impact future use of the site. The Phase I ESA included a site reconnaissance of the subject property and immediately adjacent properties, review of government databases, and interviews with individuals familiar with current and historical use of the property.

Notable conditions of the site reconnaissance included the presence of a semi-trailer, farm equipment, three diesel tanks, one oil tank, one unidentified tank, and batteries. Additionally, stained soil was observed beneath the farming equipment and one of the storage tanks. Results of individual interviews are consistent with observed site conditions with regard to the knowledge of equipment storage associated with agricultural use of the site.

Regulatory databases were searched to determine the presence of sites within one mile which may be known storage tank sites, known sites of hazardous materials generation, storage, or contamination, and locations where violations pertaining to storage, use, or disposal of hazardous materials have occurred. Results of the search revealed 28 listed properties within one mile of the project site including five sites listed in the Leaking Underground Storage Tank (LUST) database, three in the EnviroStor database, one in the California Environmental Reporting System (CERS) Hazardous Waste database, and one in the CERS Tank database. Following a review of listed properties within one mile of the project site, additional review was conducted for the following properties to determine if they resulted in a potential REC.

- **1200 Casa Grande Road - Michael Paul Company, Inc.** Listed as a CERS Tank site for violating Health and Safety Codes related to the above ground storage of petroleum tanks and a generator. Due to distance from the subject property and the site returning to and maintaining compliance, this is not considered an REC.
- **3600 Lakeville Hwy - Sola Optical USA Inc.** Listed as an inactive superfund site as a result of a reported leak. Due to the distance from the subject property and the ongoing inactive nature of the site, this is not considered an REC.
- **3200 Lakeville Hwy - The Stereo Company.** Listed as a closed case LUST cleanup site. Due to distance from the subject property and closed status of case, this is not considered an REC.
- **2592 Lakeville Hwy - Royal Tallow & Soap Company.** Listed as a historical EnviroStor site as a result of leaked gasoline resulting in possible groundwater contamination. Currently an open case for gasoline to groundwater LUST site with plans for remediation. Due to distance from the subject property and planned remediation, this is not considered an REC.
- **2700 Lakeville Hwy - Petaluma Poultry Processors.** Listed as a closed gasoline and diesel LUST site. Due to distance from the subject property and closed status, this is not considered an REC.

The Phase I ESA identified the existing conditions onsite as a REC, noting that the storage and disposal of various petroleum-based products and other chemicals on porous soil has occurred. Other hazardous materials considerations related to the project include proper disposal and removal of demolition debris during construction. As such, a Phase II ESA was prepared for the project. Results of the Phase II Subsurface Investigation are further described below.

Limited Phase II Sampling Report

Following preparation of the Phase I ESA, Analytical Environmental Services performed a Limited Phase II sampling event (**Appendix F**) to identify possible contamination from petroleum products associated with stained soils observed during the Phase I ESA site reconnaissance as discussed in the previous section. Samples were taken from areas previously observed with stained soil including along the southern property boundary near the abandoned residence (Sample Point 1) and adjacent to the storage/warehouse building (Sample Point 2). Two samples at each location, for a total of four soil samples were collected at 0-6 inches (surface) and 6-12 inches (subsurface) below ground surface (bgs). A reference sample was also taken from a similar landform and soil type away from any visible contamination. Collected samples were tested for total petroleum hydrocarbons as gasoline (TPH-gasoline and GRO), diesel fuel (DRO), motor oil (ORO), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

Results of soil sampling detected Diesel Range Organics and Oil Range Organics at both the surface and subsurface levels of Sampling Point 1. No other chemicals were detected in soils collected at Sampling Point 1, Sampling Point 2, or in the reference sample. Results were compared using the RWQCB Environmental Screening Levels (ESLs) which include direct exposure from soils and the probability for leaching into non-potable groundwater. Concentrations detected in Sampling Point 1 as well as ESLs are presented in Table 3 below.

Table 3: Limited Phase II Soil Sampling Results

	Amount Detected	ESL (Soil)	ESL (Leaching)	Exceeds ESL?
Diesel				
SP1-A	7800 mg/kg	260 mg/kg	1100 mg/kg	Yes
SP1-B	2100 mg/kg			Yes
Oil				
SP1-A	6700 mg/kg	1200 mg/kg	NA	Yes
SP1-B	2100 mg/kg			NA

Source: Phase II Limited Sampling Report, Prepared by Analytical Environmental Services, June 2020; table 4 and 5
Notes: mg/kg: milligram per kilogram; ESL: environmental screening level; SP1-A: Sampling Point 1 0-6 inches below ground surface; SP1-B: Sampling Point 1 6-12 inches below ground surface

Hazards/Hazardous Materials Impact Analysis:

4.9 (a) (Routine Transport) Less than Significant Impact: As a residential use the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. There are no elements of the residential project that require the routine transport, use of disposal of hazardous materials. Activities onsite are limited to residential uses which do not typically require the use of hazardous materials nor generate hazardous waste. As a residential development, common household cleaners, solvents, and other products may be routinely used, which do not present a significant hazard to people or the environment. The project proposes to install landscaping which requires maintenance and may involve application and storage of regulated chemicals, fuels, and related products. Potentially hazardous materials such as cleaning products and landscaping supplies may be transported to the project site in small quantities intended for consumer use. Additionally, materials are required to be handled, transported and stored in manner that is in compliance with all existing federal, state and local regulations. Therefore, impacts from the project due to routine transport of hazardous materials and hazardous waste will be less than significant.

4.9 (b) (Upset and Accident Involving Release) Less than Significant Impact with Mitigation: Site preparation and construction activities will include the temporary presence of potentially hazardous materials including, but not limited to fuels and lubricants, paints, solvents, insulation, electrical wiring, and other

construction related materials. All potentially hazardous materials present onsite will be required to be handled, stored, and disposed of in compliance with existing federal, state and local safety regulations. Once construction is complete there will not be ongoing use or generation of hazardous materials onsite, except as may be necessary for ongoing maintenance of onsite landscaping. According to the Storm Water Control Plan, weed control for planted areas will utilize corn gluten, white vinegar, vinegar-based products, or non-selective natural herbicides to minimize the application of hazardous chemicals on plants.

Ongoing use of hazardous materials and hazardous waste related to maintenance and landscaping activities include chemicals, paints and architectural coating, and fuels. The limited volume of such materials onsite is not expected to create a hazard to the public or environment due to accidental release. All potentially hazardous materials are required to be handled, stored and disposed of in compliance with all existing federal, state and local safety regulations. This will ensure that potential hazards to the public or the environment due to upset or accidental release of hazardous materials, will be at less than significant levels.

Construction of the proposed project includes demolition and removal of existing structures, improvements, equipment, and materials onsite. Given the age of existing buildings, there a potential that asbestos-containing materials (ACM) and lead-based paints (LBP) may be present. If such materials are present, demolition activities could release ACM and LBP, potentially impacting people and the environment. Compliance with **Mitigation Measure HAZ-1**, which requires an asbestos and lead-based paint survey prior to demolition of the existing structures and the implementation of Occupational Safety and Health Administration (OSHA) procedures for removal and disposal, will ensure potential impacts related to ACMs or LBP are reduced to less than significant levels.

In addition to aboveground structures, the Phase I ESA also identified agricultural-related equipment, and improperly stored hazardous materials such as petroleum storage containers, uncovered batteries, and potentially hazardous trash in an uncovered container onsite. Stained soils, odors, and other evidence of past release of hazardous materials were identified in relation to these onsite conditions and are identified as a Recognized Environmental Condition. The Phase II included soil sampling of areas identified as RECs in the Phase I and concluded that onsite soil sampling exceeds the residential ESL for diesel and oil concentrations. Without site remediation and clean up, construction activities could result in release of materials into the environment and introducing residential uses onsite could expose people to hazardous concentration, which could result in potentially significant impacts. **Mitigation Measure HAZ-2** requires excavation and disposal of the area immediately surrounding identified contamination as well as excavation beyond the extent of observable contamination. Furthermore, Measure HAZ-2 requires an additional soil sampling event following excavation to identify whether further contamination exists. Should the soil sampling indicate further contamination exceeding residential environmental screening levels, additional remediation shall be required as recommended by a qualified professional. Implementation of measure HAZ-2 will ensure that potential hazards to the public or the environment due to upset or accidental release of hazardous materials, are reduced to less than significant levels.

4.9 (c) (Emit or Handle Hazardous Materials within ¼ Mile of School) Less than Significant Impact: The project site is located across the street from the existing Sonoma Mountain High School and Casa Grande High School. Adherence to existing federal, state and local regulations will ensure that all potentially hazardous materials onsite are properly labeled, transported and stored. Established policies and programs set forth by the EPA, DTSC, CAL/OSHA and other regulatory agencies provide that the presence of potentially hazardous materials occurs in the safest possible manner by reducing the risk of accidental release and ensuring that a response plan is in place.

The Petaluma Fire Prevention Bureau regulates hazardous materials. If construction activities involve the on-site storage of potentially hazardous materials, a declaration form will be filed with the Fire Marshal's office and a hazardous materials storage permit will be obtained. Compliance with Federal, State and Local regulations will ensure that potential impacts due to the proximity of schools to the subject site would be less than significant.

4.9 (d) (Government Code §65962.5 Site) Less Than Significant Impact: The project site is not identified as a Cortese site. The project will not create a significant hazard to the public or the environment due to prior contamination since remediation will ensure that pollutant concentrations fall below ESL for residential uses (as

set forth in Measure HAZ-2). Therefore, the project would have less than significant impacts due to with a hazardous materials site.

4.9 (e) (Public Airport Land Use Plan) No Impact: The project is not located within the boundaries of an airport land use plan or located in close proximity to a private airstrip. Petaluma Municipal Airport is the nearest public airport and is located approximately 2 miles northeast of the project site. Therefore, no impacts associated with airport-related hazards are expected.

4.9 (f) (Impair Emergency Response Plan) No Impact: The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The project will not alter any emergency response or evacuation routes. Site access adequately accommodates emergency vehicles and provides connectivity to the existing circulation and street system. Therefore, the proposed Project will have no impact on the emergency response plan or emergency evacuation plan.

Hazards/Hazardous Materials Mitigation Measures:

HAZ-1: In order to avoid potential impacts related to the release of asbestos-containing materials or lead-based paint, an asbestos survey adhering to sampling protocols outlined by the Asbestos Hazard Emergency Response Act (AHERA) and lead-based paint screening shall be conducted prior to demolition of the existing structures. In the event that such substances are found, the applicant shall be subject to requirements set forth by the Occupational Safety and Health Administration (OSHA) AHERA requirements, lead standard contained in 29 CFR 1910.1025 and 1926.62, and any other local, state, or federal regulations. Treatment, handling, and disposal of these materials shall adhere to all requirements established by OSHA and other agencies.

HAZ-2: Excavation and proper disposal of contaminated material shall occur in the area surrounding sample point 1, as identified in the Phase II Report, as well as beyond the extent of observable contamination. Contaminated material shall be disposed of consistent with federal, state, and local regulations at a facility licensed to receive such materials. Following excavation, additional soil sampling shall be conducted at sample point 1 to assess whether concentrations exceeding residential environmental screening levels remain present. Should contamination exceeding ESL be detected, further excavation and remediation shall be conducted under the supervision of a qualified professional until sampling confirms that concentrations fall below residential ESL. Documentation demonstrating remediation activities, disposal, and resulting concentrations below residential ESL shall be made available to the City of Petaluma prior to the issuance of occupancy.

4.10. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern on the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				

i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; Sonoma County Water Agency Stream maintenance program Zone 2A; Sonoma County Water Agency Stream Maintenance Program, Program Manual, February 2020; Federal Emergency Management Agency's Flood Insurance Rate Map, Map Number 06097C1001G, October 2, 2015; Casa Grande Adobe Creek HEC-RAS 2D Results Summary, prepared by WEST Consultants, Inc., September 3, 2019. Preliminary Stormwater Control Plan for a regulated project DRG Casa Grande, prepared by Steven J. Lafranchi & Associates, October 9, 2019; Preliminary Drainage Analysis prepared by Steven J. Lafranchi & Associates, October 2019; Geotechnical Investigation, prepared by PJC & Associates, Inc., September 27, 2019; and Groundwater Basin Boundary Assessment Tool, CA Dept. of Water Resources; and Petaluma Valley Groundwater Sustainability Agency.

Hydrology and Water Quality Setting: The Petaluma River is the primary watercourse within the City and the Petaluma watershed which encompasses an area of approximately 46 square miles. The Petaluma River collects runoff via multiple tributaries and drains in a southeast direction through tidal marshes into San Pablo Bay. Lands near the Petaluma River and its tributaries are subject to periodic inundation during storm events. Federal and state agencies such as the U.S. Army Corps of Engineers and Regional Water Quality Control Board are responsible for protecting surface water quality. The Federal Emergency Management Agency (FEMA) designates land that is subject to flooding in support of the National Flood Insurance Program. Sonoma Water (formerly Sonoma County Water Agency) and the City of Petaluma manage waterways and regulate runoff generated from new development.

Flooding

Chapter 6 of the City's Implementing Zoning Ordinance (IZO) contains regulations for properties located in floodways and floodplains. Section 6.011 of the IZO states that flood hazard areas within the City of Petaluma are subject to periodic inundation which can result in the loss of life and property, create health and safety hazards, disrupt commerce and governmental services, cause expenditures for flood protection and relief, and impair the City's tax base, all of which have the potential to adversely impact the public health, safety, and welfare. Methods for reducing flood losses are set forth in Section 6.013 of the IZO including (a) restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which increases erosion or flood heights or velocities; (b) requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; (c) controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters; (d) controlling filling, grading, dredging, and other development which may increase flood damage; and (e) preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Section 6.040 of the IZO states that properties located outside of the designated Floodway, but within areas designated as an Area of Special Flood Hazard are zoned to the Flood Plan-Combining District (FP-C). Areas within the FP-C are subject to requirements contained in Chapter 6 of the Implementing Zoning Ordinance including the requirement that new residential structures have the lowest habitable floor elevated a minimum of 12 inches above the base flood elevation or depth number specified on the Flood Insurance Rate Map (FIRM). Upon completion of construction, the elevation of the lowest floor is required to be certified by a registered professional engineer or surveyor.

Sonoma Water manages flood control facilities throughout the County, including flood Zone 2A, within which the entire City of Petaluma is located. Sonoma Water is responsible for structural repairs to culverts and spillways, grading and managing channels, and debris removal to maintain hydraulic capacity of all waterways within Zone 2A. Portions of the Petaluma River and its tributaries are managed by Sonoma Water in their role as the regional flood control facility. The City of Petaluma shares maintenance responsibilities with Sonoma Water on regional facilities and is responsible for maintaining reaches of the Petaluma River and its tributaries that are under local ownership. The segment of Adobe Creek that is on the project site is identified as the channel ownership of the City of Petaluma and is maintained by Sonoma Water through an easement agreement. Sonoma Water performs annual maintenance to remove sediment from the Adobe Channel and instream sediment basin upstream of McDowell Boulevard. Planned maintenance for 2020 includes vegetation management and sediment removal.

The Federal Emergency Management Agency's flood hazard mapping program provides guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, FEMA defines Floodway (Zone AE), 100-year floodplain (Zone AE, A99), and 500-year floodplain (Zone X) boundaries that are shown on the Flood Insurance Rate Maps (FIRMs). Based on the FIRM community panel map number 06097C1001G (effective date October 2, 2015), approximately 2.8-acres of the project site is located within the 100-year floodplain (Zone AE). The remaining 1.7-acres of the site is located within the non-regulated 500-year floodplain and area of minimal flood hazard (0.2% chance flood; Zone X).

Stormwater Runoff

Section 402 of the Clean Water Act regulates the discharge of pollutants to waters of the U.S. At the local level, this is implemented through the National Pollution Discharge Elimination System (NPDES) General Permit. Requirements apply to the project's construction activities including grading, grubbing, and other site disturbance. Construction activities on more than one acre are subject to NPDES permitting requirements including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The NPDES General Permit requirements also address post-construction conditions resulting from development including, but not limited to Low Impact Development (LID) requirements. Under LID requirements, new development is required to mimic pre-developed conditions, protect water quality, and retain runoff from new impervious surfaces introduced onsite.

The City of Petaluma Municipal Code regulates stormwater discharges (Chapter 15.80), sets forth grading and erosion control requirements (Chapter 17.31) and establishes limitations on stormwater runoff emanating from development sites through implementation of Low Impact Development. Additionally, the City collects Storm Drainage Impact Fees as a means of mitigating impacts occurring as a result of development. The City may accept payment of fees or the construction of on- or off-site detention areas, based upon the type of project and amount of runoff generated, as calculated for a 100-year storm. Fees are used by the City for acquisition, expansion, and development of storm drainage infrastructure.

Due to the project site being greater than one acre, a SWPPP is required. A Preliminary Stormwater Control Plan for the project was prepared in accordance with the Bay Area Stormwater Management Agencies Association (BASMAA) criteria. The Preliminary Stormwater Control Plan (SWCP) identifies LID design strategies such as the use of bioretention facilities and permeable pavement. The project proposes a system of drainage swales and bio-retention basins designed to collect storm water run-off from impervious surfaces onsite for a minimum storm intensity of 0.2 inches per hour. Stormwater runoff that exceeds the two-year event storm intensity of 0.5 inches per hour will bypass the bioretention basins as water levels rise and flows will be

routed to existing storm water infrastructure located in the Casa Del Oro subdivision, south of the project site which ultimately outfalls to the Adobe Creek. A Preliminary Drainage Analysis provides modeled design information to assess capacity demands of bio-retention basins to retain stormwater from a 10-year storm event. The SWCP collects water from interior lots into drainage swales and empties into bioretention basins located adjacent to the Adobe Creek, at the west side of the new public street, and at the south end of the project site along Del Rancho Way. Runoff from interior lots and lots along the private street will be directed into bio-retention basins through the use of drainage swales on interior lots, and curb and gutter sheet flow along the street. Treatment and retention for exterior lots includes directing stormwater run-off to drainage swales that outlet to the bio-retention basins. Annual inspection of the stormwater treatment system onsite is required to ensure its proper operation, as described in the Stormwater Control Plan.

Groundwater

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 Bulletin 118 Groundwater Basins published in 2018. The State of California adopted the Sustainable Groundwater Management Act (SGMA) in 2014 that called for the creation of local Groundwater Sustainability Agencies to develop and implement Groundwater Sustainability Plans 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 Groundwater Sustainability Plan (GSP) and corresponding projects. The draft GSP is under public review in 2020 to gather feedback on six sustainability indicators that measure conditions and activities potentially leading to unsustainable groundwater use. The indicators include lowering groundwater levels, sea water intrusion, reduction of storage, land subsidence, degraded groundwater quality, and surface water depletion. The PVGSA is scheduled to adopt the GSP in 2022 to begin implementation of projects that demonstrate improvements to groundwater sustainability by 2042 with the goal of maintaining sustainability through 2072.

Hydrology and Water Quality Impact Analysis:

4.10 (a) (Water Quality Standards) Less than Significant Impact: During construction the project has the potential to impact water quality if not properly controlled. Construction activities within the City of Petaluma are covered by the Construction General Permit (2009-0009-DWQ). As the project will result in disturbance to more than one acre of land, a Storm Water Pollution Prevention Plan (SWPPP) is required. Standard erosion and sediment control requirements will be implemented during all stages of construction. Typical Best Management Practices (BMP) that are generally applied during construction activities include use of fiber filter rolls, sandbags or interceptors at storm drain inlets, track pads at access points, and spill prevention, amongst others.

The project will implement best management practices for erosion control during construction activities as required by the City's grading and erosion control ordinance (Chapter 17.31 of the Municipal Code). Thus, water quality standards and waste discharge requirements will be met.

At operation, runoff from the proposed development will increase relative to existing conditions. Runoff from new impervious surfaces may result in water quality impacts if not properly controlled. The SWCP identifies installation of bio-retention features that collect stormwater in drainage swales and filters runoff prior to discharging water. Runoff will filter through bioretention areas prior to entering the storm drain system which will minimize pollutant loads. Therefore, the project's potential to violate water quality or waste discharge standards would be less than significant.

4.10 (b) (Groundwater Supply and Recharge) Less than Significant Impact: The City has adequate water supply resources to accommodate development of the proposed 36 single-family dwelling units without depleting, degrading or altering groundwater supplies or interfering substantially with groundwater recharge. Based on the subsurface findings detailed in the Geotechnical Investigation, the surface and near surface site soils have very low infiltration rates when thoroughly saturated. As such, development of the proposed project will not substantially change the nature of surface water percolation into the Petaluma Valley Groundwater Basin.

The proposed project will rely exclusively on potable water delivered by the City of Petaluma and does not involve any groundwater extraction onsite. The project's water demands are consistent with water demands evaluated in the City UWMP, which found sufficient water supplies are available to meet existing and planned future demands. Groundwater reserves will not be depleted due to the proposed development as the City's water supply is largely dependent on surface water flows from Sonoma Water. There are no groundwater wells proposed as part of the project, rather the project will be served by the City's municipal water supply. Therefore, the project will result in less than significant impact to groundwater supply and recharge.

4.10 (ci-civ). (Drainage Pattern, Runoff and Storm Drain Capacity) Less than Significant Impact: The proposed project will not substantially alter the course of a stream or river, or otherwise substantially alter the drainage pattern relative to predevelopment conditions. Currently stormwater runoff from the project site sheet flows towards Adobe Creek on the eastern portion of the site and a small area in the western portion of the site drains to the west, towards Casa Grande Road.

According to the Stormwater Control Plan, site improvements will introduce approximately 83,275 square feet of new impervious surfaces as compared to existing conditions. The project proposes the installation of drainage swales and basin retention areas to collect stormwater and filter on-site runoff from new impervious surfaces. The bioretention areas along the proposed public street are designed to collect stormwater runoff from interior lots via drainage swales, under-sidewalk drains, and sheet flows from the curb and gutter. Stormwater from the exterior lots will be collected from a six-inch storm drain running along the rear lots of the residences and directed as sheet flow to basin retention areas. The stormwater control system and basin retention areas will be designed to accept runoff and provide groundwater percolation from a two-year storm event. Runoff exceeding a two-year event in excess of 0.5 inches per hour will overflow into the existing 15-inch storm drain at Del Rancho Way, which ultimately outfalls to Adobe Creek in historic drainage patterns.

The proposed onsite detention basin will serve as a stormwater treatment and retention area. All low-flow storm events that require treatment/retention will flow directly to the treatment/retention area within the basin. During high-flow storm events where treatment/retention is not required, the storm water will by-pass the treatment/detention area in the basin and enter the public storm drain system. A by-pass structure will allow for distribution of storm water to the basin or will enter the public system. Runoff within the 50-foot setback of the Adobe Creek will sheet flow towards the river, following the historic drainage pattern. With implementation of the SWCP, the introduction of new impervious surfaces onsite would not substantially increase the rate or amount of surface runoff or adversely impact the storm drain capacity. Therefore, impacts from the proposed residential development will be less than significant.

4.10 (d). (Flood Hazards, Seiche, Tsunami, Mudflow) Less than Significant Impact with Mitigation: As described above, the property is located within the 100-year floodplain and therefore is zoned to the Flood Plain-Combining District. Pursuant to Section 6.070(D) of the IZO, new residential structures permitted in the Flood Plain-Combining zone are required to have the lowest habitable floor, including basement, elevated at least 12 inches above the level of the base flood elevation (42 to 44 feet). In compliance with the City requirements, the project proposes to elevate the finish floor of new residential structures 44 to 46 feet. To ensure compliance, **Mitigation Measure HYDRO-1** shall be implemented which requires that a registered professional engineer or surveyor, certify that the finished floors are sufficiently elevated from the base flood elevation.

Raising the finish floor of new structures will require importing fill to the site, which will result in displaced flood waters. The project will include a bioretention area which will accommodate flood water from a 100-year storm event equal to the volume of water displaced by fill to the floodplain. Following the storm event, water will recede back to the creek in historic drainage patterns and any remaining water in the basin that does not sheet flow to the Adobe Creek will drain to the public storm drain. The project will also address existing surface flood waters that flow from the project site to the existing residential subdivision to the south by re-routing sheet flows through the proposed onsite storm drain system. Implementation of design features including grading and drainage improvements will substantially reduce or eliminate surface flows emanating from the project site to Del Oro Circle during storm events.

The project as designed, implementation of the SWCP, and compliance with the City's floodplain regulations will effectively mitigate flood waters. Implementation of measure HYDRO-1 and flood design features will reduce

potential impacts due to flood hazards on- and offsite to less than significant levels. Furthermore, the project site is not susceptible to seiche, tsunami or mudflows due to site topography and elevation and therefore, impacts will be less than significant.

4.10 (e). (Conflict with Water Quality Control or Sustainable Groundwater Management Plans) Less than Significant Impact: The project will not conflict with a water quality control plan or a sustainable groundwater management plan. As described above, implementation of a Storm Water Pollution Prevention Plan and compliance with the City's erosion control requirements will avoid erosion and sediment runoff during all stages of construction. During operation, the project site will be improved with bio-retention basins and LID features that will minimize runoff, reduce sedimentation and protect water quality. Implementing the project's SWCP as described above provides for protection of water quality during construction and at operation. Therefore, the project will not result in a conflict with water quality control and impacts will be less than significant.

The City of Petaluma is in the process of developing a Groundwater Sustainability Plan, which must be prepared by 2022 in accordance with the Sustainable Groundwater Management Act (SGMA). As no Groundwater Management Plan has been adopted, the project will not result any conflicts with such a plan. Therefore, potential impacts will be less than significant.

Hydrology and Water Quality Mitigation Measures:

HYDRO-1: Following construction of the residential buildings within the FP-C (Flood Plain – Combining District), and prior to occupancy, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator. The Floodplain Administrator shall require standards in accordance with the FP-C such as the following:

1. All new improvements shall be anchored to present flotation, collapse, or lateral movement.

2. All new improvements shall be constructed with materials and utility equipment resistant to flood damage and using methods and practices to minimize flood damage.

3. All electrical, heating, air conditioning, ventilation, and plumbing shall be designed and located to prevent water from entering or accumulating within components during flooding.

4. All new construction and improvements shall insure that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. A minimum of two opening not less than one square inch for every square foot of enclosed area shall be provided.

4.11. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Sources: City of Petaluma General Plan and EIR; City of Petaluma Implementing Zoning Ordinance; Petaluma Bicycle and Pedestrian Plan: An Appendix to the General Plan 2025, May 2008.

Land Use Setting: The project site is located at 240 and 250 Casa Grande Road, east of Highway 101 and State Route 116, and is within the South East Planning Subarea of the General Plan. The project site lies on the east side of Casa Grande Road between Ely Boulevard South and South McDowell Boulevard. The eastern portion of the project site includes Adobe Creek and the Adobe Creek corridor. Adjacent land uses include detached single-family residences to the south and to the east across Adobe Creek. Casa Grande High School is located across Casa Grande Road to the. The Casa Grande Senior Apartments are located approximately 450 feet north of the project site on Casa Grande Road near the intersection of Ely Boulevard.

Approximately 3.7 acres of the 4.5-acre project site is designated Medium Density Residential (8.1 to 18.0 dwelling units/acre) on the General Plan Land Use map. The remaining 0.8-acres are designated as Open Space, inclusive of the Adobe Creek and its riparian corridor (**Figure 3: General Plan Land Use**). The project site is zoned R4 (Residential 4) on the City's Zoning map which allows for a variety of housing types ranging from single to multi-family dwellings. Additionally, the site is also within the FP-C (Floodplain Combining District) as specified in Section 6.040 of the Implementing Zoning Ordinance, as approximately sixty percent of the site is within the 100-year floodplain. As part of the proposed project, the applicant is requesting a zoning map amendment to rezone the property from R4 to Planned Unit Development (PUD), which will allow for establishment of site-specific land use regulations (**Figure 4: Existing and Proposed Zoning)**. Additionally, the applicant is requesting a vesting tentative map for the subdivision of the property into 36 residential lots and a remainder parcel and Site Plan and Architectural Review for a subdivision with five or more single household dwellings. The project is subject to provisions contained in the Implementing Zoning Ordinance including Chapter 6 (Floodway and Flood Plan Districts), Chapter 19 (Planned Unit District), Chapter 21 (Performance Standards), and Chapter 24 (Site Plan and Architectural Review).

General Plan Figure 5-2 Proposed and Existing Bicycle Facilities map indicates existing Class II bicycle facilities on Casa Grande Road from Lakeville Street to Ely Boulevard South, South McDowell Boulevard from Cypress Drive to East Washington Street, and Ely Boulevard South from Casa Grande Road to East Washington Street. Additionally, Figure 5-2 indicates an off-street Class I bicycle and pedestrian facility is located along the east side of the Adobe Creek Corridor, extending from Ely Boulevard South to Shollenberger Park. Proposed bicycle and pedestrian improvements include the installation of a Class II facility on the project's Casa Grande Road frontage that will align with the existing Class II facility found on Casa Grande Road.

General Plan Policy 4-P-1 provides that development along tributaries of the Petaluma River be set back a minimum of 50 feet from the top of bank except where improvements include greenway enhancements such as trails and bikeways.

Land Use Impact Analysis:

4.11 (a) (Divide an Established Community) No Impact: The project consists of redevelopment of an underutilized residential property. The site is located in close proximity to established residential neighborhoods and is surrounded by other compatible uses including public facilities and recreational opportunities. Division of an established community typically occurs when a new physical feature, in the form of an interstate or railroad, physically transects an area, thereby removing mobility and access within an established community. The division of an established community can also occur through the removal of an existing road or pathway, which would reduce or remove access between a community and outlying areas. The project proposes a new public road, sidewalks and bicycle and pedestrian improvements that will increase circulation and connectivity between the project site, and surrounding existing residential uses, public facilities, and recreational opportunities. The project will not introduce a physical barrier or otherwise divide an established community. Therefore, no impacts will occur under this criterion.

4.11 (b) (Land Use Plan, Policy, Regulation Conflict) Less than Significant Impact: With approval of the proposed rezoning from R4 to PUD, the vesting tentative map subdividing the property into 36 single family lots with two remainder parcels, and the Site Plan and Architectural Review, the project will be generally consistent with the General Plan, Zoning, and land use regulations established by the City of Petaluma.

The PUD development standards allow for density, building intensity, and design characteristics that are similar but not conforming to the existing zoning district, and allow for a more desirable use of land and a better physical environment than would be allowed under a single zoning district. The proposed project will introduce a new

public street and vehicular easement totaling 0.93 acres and will allow vehicular access to the new residences and provide a connection to the stub out of Del Rancho Way. The project proposes to create an approximately 1.16-acre Common Parcel (Parcel A) on the eastern portion of the site inclusive of the Adobe Creek, a 50-foot riparian corridor setback, stormwater and flood control enhancements. The remaining 2.44-acres of the site includes 36 single-family residences. The clustering of residential structures and proposed land dedication is consistent with the PUD development findings set forth in IZO Chapter 19 Planned Unit District. The PUD development standards establish height limits, setbacks, parking, open space, landscaping and screening requirements that are respectful of the existing environment including built and natural features. The PUD would accommodate a residential density of 10.09 units/ net acre[10], which is consistent with the R4 Zoning District and the General Plan Land Use Designation of Medium Density Residential (8.1-18.0 dwelling units/acre).

The City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies an existing Class I multi-use trail facility within close proximity of the project site. Additionally, several existing Class II on street bicycle lanes surround the project site. Proposed bicycle and pedestrian improvements include the installation of a Class II bicycle facility on the project's Casa Grande Road frontage, as well as a mid-block crossing leading from the project site to Casa Grande High School. Accordingly, the project is consistent the City's Bicycle and Pedestrian Plan and does not present a conflict that would result in an environmental impact.

Per Section 6.070(D) of the IZO, new residential structures located within the Flood Plain-Combining district shall have the lowest habitable floor, including basements, elevated a minimum of 12 inches above the base flood elevation. The project site has a base flood elevation of 42 to 44 feet. The grading plan submitted for the project indicates that the lowest habitable floor will be 44 to 46 feet. Furthermore, Mitigation Measure HYDRO-1 requires that the elevation of the lowest floor be certified by a registered professional engineer or surveyor, consistent with the City's requirements for residential development within the floodplain. Therefore, the project complies with the FP-C district, which establishes regulations for the purpose of avoiding or mitigation a potential environmental impact.

The project is consistent with the density limits established by the Medium Density Residential General Plan land use designation. The proposed project and associated site improvements are compatible with surrounding uses including adjacent residential, school, and recreational uses. Furthermore, the project is consistent with applicable General Plan policies including those related to land use, the natural environment, and bicycle and pedestrian circulation. There are no conflicts with the City's land use regulations and therefore, impacts due to a conflict that would result in an environmental impact as a result of the project are less than significant.

Land Use Mitigation Measures: None required.

4.12. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Sources: Petaluma 2025 General Plan and EIR.

[10] 10.09 units/acre density is based on the General Plan definition of net density, which excludes the public street right-of-way and the vehicular easement. With the exclusion of Parcel A containing the bioretention basin, as well as the public right-of-way and the vehicular easement, the density is 14.75 units per acre.

Mineral Resources Impact Discussion

4.12 (a-b). (Mineral Resources or Resource Plans) No Impact: There are no known mineral resources within the UGB. The project site has not been delineated as a locally important resource recovery site. It is not expected that the project will result in the loss of availability of known mineral resources, including those designated as "locally important". Therefore, the proposed project will have no impact to mineral resources.

Mineral Resources Mitigation Measures: None required.

4.13. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Sources: 2025 General Plan and EIR; IZO 21.040; and US EPA Legal Compilation; Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

Noise Setting: Noise is generally defined as unwanted sound. It is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. The decibel (dB) scale is used to quantify sound intensity, given that the human ear is not equally sensitive to all frequencies in the entire spectrum, noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels". In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling the sound level. The average A-weighted noise levels measured across a given study period is denoted as the Equivalent Noise Level (L_{eq}). The Community Noise Exposure Level (CNEL) is a weighted average of noise level over time which calculates the equivalent noise level for a continuous 24-hour period while imposing a five-decibel penalty in the evening (7pm-10pm) and 10-decibel penalty during nighttime and morning hours (10pm-7am).

The City of Petaluma regulates the noise environment through Section 21.040 of the Implementing Zoning Ordinance (IZO). The IZO stipulates an hourly average level of 60 dBA as the maximum that may be generated on one land use that may affect another land use; the allowable levels are adjusted to account for the ambient noise levels and in no case shall the maximum allowed noise level exceed 75 dBA after adjustments are made.

The 2025 General Plan provides policies to protect the health and welfare of the community from undesirable noise levels. Figure 10-2 of the General Plan shows the Land Use Compatibility Standards for various land uses and provides the relative acceptability level. Single-family residential land uses are considered normally

acceptable in a noise environment up to 60 dB (Community Noise Equivalent Level or CNEL). Figure 10-1, Noise Contours of the General Plan indicates that noise levels at the site are projected to be below 60 dB CNEL at General Plan build out due to the sites distance from noise-generating roadways.

Major sources of noise in the City of Petaluma include vehicles traveling along roadways, railroads, and the Petaluma Municipal Airport. The existing noise environment in the vicinity of the project site is characterized by vehicles on Casa Grande Road, South McDowell Boulevard, and Ely Boulevard South. Nearby schools, recreational areas, and residential uses also contribute to the ambient noise environment. Surrounding sensitive receptors include adjacent residential uses to the south and Casa Grande High School to the West.

Noise Impact Analysis:

4.13 (a) (Noise Standards) Less than Significant Impact with Mitigation: As a residential use the proposed project will not introduce new sources of noise that increase the ambient noise environment to levels that exceed established land use compatibility standards. The project would introduce 36 new single-family residential units in an area adjacent to existing residential uses, Adobe Creek, and Casa Grande and Sonoma Mountain High Schools. The project will result in a temporary noise increase as a result of construction activities and a permanent increase in ambient noise at operation resulting from typical residential activities such as talking, vehicle use, building and landscaping maintenance, barking dogs and children at play.

During temporary construction activities, noise levels generated from construction activities are expected to be in the range of 80 to 90 dBA at distances of 50 feet from noise generating construction activities.[11] Construction noise will include demolition of existing onsite structures, grubbing vegetation, tree removal, grading and site improvements, and installation of utilities, building construction, paving, and landscaping. The nearest sensitive receptors, located south of the project site, are approximately 10 feet from the nearest construction activities. Given the close proximity, nearby residents will be exposed to elevated noise levels temporarily during construction activities. However, exposure is intermittent and temporary and will cease upon completion of the project. Furthermore, the project is required to adhere to the performance standards set forth in Section 21.040(A)(3)(a) of the City's Implementing Zoning Ordinance. Given the site's proximity to existing residents, the project shall comply with **Mitigation Measure NOI-1** which requires implementation of best construction management practices. Compliance with the City's IZO and with implementation of measure NOI-1, noise generated from construction activities are not expected to exceed 60 dBA L_{eq} and the ambient noise environment by five dBA L_{eq} for a period greater than one year. Therefore, the project will not exceed noise standards and impacts from temporary construction activities will be reduced to less than significant levels.

New vehicles trips will be introduced by the 36-unit residential project to the surrounding roadways. A significant impact on noise levels would occur from a project generating an additional 4 dBA of roadway noise which correlates to a doubling of current roadway volume. Given the size of the proposed project and the current volume of traffic on project area roadways, there is no possibility that the project would double the trip volumes. Therefore, the project will have less than significant impacts due to project generated traffic noise.

4.13 (b) (Groundborne Vibration and Noise) Less than Significant Impact: The project would result in temporary noise and vibration during construction activities at typical levels associated with single-family development. Demolition, grading, site improvements, building construction, and material hauling will involve the use of heavy-duty construction equipment that generate groundborne noise and vibration. Construction activities along the southern project boundary will occur at a distance of 10 to 100 feet from the nearest residential uses. At the closest point, construction activities will occur within 10 feet of existing residential property boundaries and approximately 20 to 30 feet from existing structures. For structural damage a vibration limit of 0.5 inches per second, peak particle velocity (PPV) is applied.[12] Vibration levels from construction equipment as near as 20 feet ranges from 0.004 (for a Small Bulldozer) to 0.26 (for a vibratory roller). [13] Though construction activities will occur as close as 10 feet from the nearest residential property lines, existing structures are located further from construction activities and will not be subject to vibration levels that could result in structural damage. Vibration from construction activities will be intermittent and temporary and will not

[11] USEPA Legal Compilation on Noise, Vol. 1, pg. 2-104.
[12] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, Sept. 2018, pg. 186, table 7-5
[13] vibrationdamage.com/vibration_and_distance.htm: $PPV_{Equipment} = PPV_{Ref}(25/D)^n$ (in/sec), where PPV_{Ref} is the reference PPV at 25 feet, D is the distance from the equipment to the receiver in feet, and n=1.1

result in excessive groundborne vibration or noise. As such, impacts from groundborne vibration would be less than significant.

4.13 (c) (Airport Noise) No Impact: The project site is not located near a private airstrip, within an airport land use plan or within two miles of a public airport or public use airport and would therefore not expose people residing or working in the project area to excessive noise levels. The Community Noise Equivalency Level (CNEL) noise contours from the Petaluma Municipal Airport do not affect the subject site. The project would not expose people working onsite to significant noise levels generated by the Petaluma Municipal Airport. Therefore, noise from the Petaluma Airport will have no impact to people residing or working onsite.

Noise Mitigation Measures:

NOI-1: The following Best Construction Management Practices shall be implemented to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance:

1. Limit construction hours to between 8 a.m. and 5:30 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday. Construction activities shall be prohibited on Sundays and State, Federal and Local Holidays.
2. Delivery of materials and equipment to the site and truck traffic coming to and from the site is restricted to the same construction hours specified above.
3. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
4. Unnecessary idling of internal combustion engines shall be strictly prohibited.
5. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.
6. Acoustically shield stationary equipment located near residential receivers with temporary noise barriers.
7. Utilize "quiet" air compressors and other stationary noise sources where technology exists.
8. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities.
9. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from existing residences.
10. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
11. The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
12. Notify all adjacent residences within a 500-foot radius of the site, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses.
13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

4.14. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Sources: City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance; and Petaluma Housing Element 2015 – 2023, Attachment 1. American Community Survey 2018 5-Year Estimate, Selected Housing Characteristics, Table DP04, Petaluma.

Population and Housing Setting: The 2025 General Plan contemplates development of approximately 6,000 additional residential units and a buildout population of approximately 72,700. This represents an annual growth rate of nearly 1.2% per year. The project would add 36 single-family dwelling units. The Residential Land Inventory of the City of Petaluma 2015-2023 Housing Element identifies opportunities for housing development in the City including individual parcel capacity and environmental constraints. The project site, 240 and 250 Casa Grande Road, as well as 270 and 280 Casa Grande Road comprise site #11 on the Residential Land Inventory. As described in the Housing Element, site #11 is classified as Medium Density Residential, was identified as having a capacity of up to 92 units for the entire site.

Pursuant to the City's inclusionary housing policy, a minimum of 15% of the units are required to be provided onsite at an affordable level comprised of 7.5% at the low-income level and 7.5% at the moderate-income level, or alternative compliance. The project proposes 36 units, 30 of which are detached single-family units and six attached single-family units distributed across the site. Four of the project's five required inclusionary affordable dwelling units are proposed in the six attached dwelling units. Additionally, 11 of the 36 units will contain junior accessory dwelling units within the building footprints.

According to the U.S. Census Bureau's, American Community Survey, five-year estimates between 2014 and 2018, the City of Petaluma has a total of 23,172 housing units and is home to 60,635 people. As a 36-unit development with an average of 2.66 persons per owner-occupied household, the proposed project is expected to add approximately 96 people.

Population and Housing Impact Analysis:

4.14 (a) (Substantial Unplanned Growth) Less than Significant: The project site is located within the UGB, on a property that is identified as a Housing Opportunity Site in the Petaluma Housing Element and will not directly or indirectly induce substantial growth. The projected population increase of 96 persons does not constitute a substantial increase and remains sufficiently below the General Plan 2025 population projections. The proposed project site is surrounded by residential uses to the south and east, the Adobe Creek to the east, and public school facilities to the west. The extension of utilities will be limited to provide services to the subject property and sized accordingly. The project is not expected to promote further development beyond what is proposed for the project site and will not extend services to areas where services were previously unavailable. Therefore, the project will have less than significant impacts related to growth inducement.

4.14 (b) (Housing or Persons Displacement) Less than Significant Impact: The proposed project would introduce 36 new residential units to a currently underutilized property. The site is developed with two residences, one of which is occupied. Though the project will demolish an existing residence, it is not considered a substantial impact as it will not displace a large number of people, necessitating the construction of replacement housing elsewhere. Furthermore, the site was previously identified as a housing opportunity site

and the proposed development is consistent with densities envisioned by the Medium Density Residential General Plan land use designation. As such, the project will have a less than significant impact with regard to displacement of existing people and housing.

Population and Housing Mitigation Measures: None required.

4.15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
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:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☐	☒

Sources: City of Petaluma General Plan 2025 and EIR.

Public Services Setting: The City of Petaluma charges one-time impact fees on new private development to offset the cost of improving or expanding City facilities to accommodate the demand generated by new development. Impact fees are used to fund the construction or expansion of capital improvements. Petaluma also collects impact fees for open space, parkland, and other amenities. Development impact fees are necessary to finance public facilities and service improvements and to pay for new development's fair share of the costs of the City planned public facilities and service improvements identified to accommodate buildout of the General Plan.

Public Services Impact Analysis:

4.15 (a-b) (Fire & Police Protection) Less than Significant Impact: The project site is located in an established residential neighborhood that is well served by existing public services. The increase in residents from the proposed project may result in a slight increase in demand for police and fire services. However, the incremental increase on fire and police services are anticipated by the General Plan and are accounted for with the City Facilities Development Impact Fees that are intended to offset the impacts of growing demand for fire and policing services.

General Plan policy 7-P-19 establishes a four-minute travel time and six-minute response time for emergencies within the City. The project is situated approximately 2.6 miles from Fire Station 1, located at 198 East D Street, 4.3 miles from Fire Station 2, located at 1001 N. McDowell Boulevard, and approximately 1.1 miles from Fire Station 3, at 831 S McDowell Boulevard. The project is within the response radii of Fire Station 3 (General Plan EIR Figure 3.4-2) and travel time is achievable within the targeted four minutes. The project is consistent with the General Plan 2025 due to its location within an established four-minute travel and six-minute response time,

the ability of emergency response vehicles to override traffic controls with lights, sirens, and signal pre-emption, and ability to travel in opposing travel lanes in congested conditions.

Although additional fire and/or police service calls may occur as a result of the project, substantial new fire protection or police protection facilities will not be warranted to maintain necessary levels of service. As a standard condition of project approval, the applicant is required to pay all development impact fees applicable to a residential development, including a facilities fee. These funds are sufficient to offset the cumulative increase in demands to fire and police protection services that may result from the new development, therefore the impacts on the City's emergency services are less than significant.

4.15 (c) (Schools) Less than Significant Impact: The Project will not result in a substantial increase in student enrollment requiring new school facilities. The project site is located within the Petaluma City Schools District and the Old Adobe Union Elementary School District. The nearest schools, Sonoma Mountain and Casa Grande High Schools are located across Casa Grande Road from the project site. La Tercera Elementary School is located approximately one mile west of the project site. The General Plan projects that both the Petaluma City Schools District and the Old Adobe Union Elementary School District will experience a slight increase in enrollment, but that the projected enrollment would not exceed the existing capacity of the public elementary schools located within the city limits. Overall, the projected enrollment for public elementary schools would decline and would utilize 93.9 percent of current capacity. Adequate school facilities are in place to accommodate the minor increase in enrollment associated with development of the proposed 36 multi-family units. The project is subject to the payment of statutory school impact fees to offset any cumulative impacts on the school system. Therefore, the proposed project will have less than significant impacts to schools.

4.15 (d) (Parks) Less than Significant Impact: The City has adopted a citywide parks standard of five acres of parkland per 1,000 residents. The nearest existing parks to the project site include Crinella Park across Casa Grande Road and Del Oro Park located along Del Oro Circle in the Casa Del Oro Subdivision.

Parks in the vicinity of the project site provide recreational opportunities to future residences. The proposed project would result in 36 new single-family dwellings and will not constitute a substantial growth in population. Existing park facilities are expected to be sufficient to meet active and passive recreational demands of new residents. A substantial adverse impact to park facilities is not expected to occur from implementation of the project. Therefore, impacts to park lands as a result of project will be less than significant.

4.15 (e) (Other Public Facilities) No Impact: The Project will not result in substantial adverse impacts associated with other public facilities. The project area is surrounded by established residential uses and is well served by existing public services and facilities. The project will not generate a substantial increase in demands that warrant the expansion or construction of new public facilities. Therefore, there would be no impacts related to other public facilities.

Public Services Mitigation Measures: None required.

4.16. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Sources: 2025 General Plan and EIR; California Protected Areas Database, 2019; and Bay Area Ridge Trail, Helen Putnam Regional Park and City of Petaluma Ring Trail, accessed December 2019.

Recreation Setting: The City of Petaluma offers a variety of passive and active recreational opportunities within the UGB with approximately 18% of land (1,300 acres) devoted to parks and open space according to the Petaluma General Plan 2025. Sonoma County and the State also operate parks and recreational facilities near the City of Petaluma. Petaluma Adobe State Historic Park, east of the City limits, is owned and operated by the California State Parks Department. The 256-acre Helen Putnam Regional Park, located in the southwestern edge of the city, is managed by the Sonoma County Regional Parks Department. Regional trails traverse the City limits as existing and proposed sections of multi-county trail networks that span the nine-county region, including the Bay Area Ridge Trail and San Francisco Bay Trail. The City of Petaluma and Sonoma Water own and maintain most of Petaluma's creeks and channels, with several waterways designed to include a multi-use trail alongside its banks. These creekfront and riverfront trails contribute to outdoor recreational opportunities.

General Plan policy 6-P-1 and programs set forth therein provide guidance to retain and expand recreational resources for the health and welfare of the city's inhabitants. Program 6-P-1-F requires that new development alongside pathways does not detract from scenic or aesthetic qualities of the corridor. Policy 6-P-6 requires the city maintain a park standard of 5 acres per 1,000 residents, or approximately 0.005 acres of park space per resident. Park land development and open space acquisition impact fees are required to help offset any potential impacts on recreation resources generated by development projects.

The City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies existing and proposed bicycle routes throughout the City. Existing bicycle facilities in the vicinity of the project site include Class II bicycle lanes on Casa Grande Road from Lakeville Street to Ely Boulevard South, South McDowell Boulevard from Cypress Drive to East Washington Street, and Ely Boulevard South from Casa Grande Road to East Washington Street.

A Class I off-street bicycle and pedestrian trail is located along the east side of the Adobe Creek Corridor and extends from Ely Boulevard South to Shollenberger Park. Access points to the trail are located along Sartori Drive between Del Oro Circle and Rio Nido Way, Spyglass Road, and Ely Boulevard South between Casa Grande Road and Spyglass Road. The nearest parks include Del Oro Park, approximately 450 feet south of the project site, and Crinella Park, which is located across Casa Grande Road to the west.

The project includes installation of a midblock crossing which would allow for bicycle and pedestrian access to Casa Grande High School, Sonoma Mountain High School, and Crinella Park. Additionally, as recommended by the Pedestrian and Bicycle Advisory Committee, the project will also include a publicly accessible walking path around the bioretention area and will also install internal bicycle and pedestrian circulation connections to the neighborhood.

Recreation Impact Analysis:

4.16 (a-b) (Park Deterioration and Recreation Facilities) Less Than Significant Impact: The project will result in an incremental increase in the use of nearby parks and multi-use trail systems. This includes the Class I separated path that extends from Ely Boulevard South to Shollenberger Park and the nearby Del Oro Park and Crinella Park. Increased park use as a result of implementation of the project would not result in substantial physical deterioration of facilities nor would deterioration be accelerated. Moreover, the park and open space-related development impact fees required of the project adequately address incremental increase in the use of parks. Therefore, impacts related to the physical deterioration of parks and other recreational areas would be less than significant.

4.16 (b) (Recreation Facilities) Less Than Significant Impact: The 36-unit single-family residential project will introduce approximately 96 new residents as park users to the City's recreation resources. The project includes installation of bicycle and pedestrian improvements including a mid-block crossing across Casa Grande Road, internal circulation within the neighborhood, and a publicly accessible pedestrian path around the bioretention area. Beyond the proposed bicycle and pedestrian improvements, the project does not include

construction or expansion of recreational facilities that would have an adverse physical effect on the environment and therefore impacts under this criterion will be less than significant.

Recreation Mitigation Measures: None Required.

4.17. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Sources: City of Petaluma General Plan and EIR; City of Petaluma Bicycle and Pedestrian Plan 2008; Technical Advisory on Evaluating Transportation Impact in CEQA, prepared by the California Office of Planning and Research, December 2018; Focused Traffic Study for Casa Grande I, prepared by W-Trans June 2020; Updated VMT Assessment for the 240-250 Casa Grande Road Project, prepared by W-Trans, August 2020; Quantifying Greenhouse Gas Mitigation Measures, 2010, pg. 156, prepared by California Air Pollution Control Officers Association, August 2010; Civil Engineering Plans, prepared by Steven J Lafranchi & Associates, June 8, 2020.

Transportation Setting: The City of Petaluma is bisected by Highway 101, which serves as the primary route between San Francisco and Marin and Sonoma Counties. Highway 101 accommodates over 90,000 vehicles per day, within Petaluma. The City is served by several bus operators including Golden Gate Transit, Sonoma County Transit, Petaluma Transit, and Sonoma Marin Area Rail Transit (SMART). The SMART rail corridor bisects the city and provides commuter rail service via Petaluma's Downtown Station. The circulation system within the City of Petaluma consists of approximately 140 miles of streets including arterials, collectors, connectors, and local streets. The City's roadway system also includes a bicycle network, sidewalks, and off-street trails.

Level of service (LOS) has historically been used as a standard measure of traffic service within the City of Petaluma and focuses on delay-based criteria. The City of Petaluma, through General Plan policy 5-P-10 establishes a goal of maintaining a LOS 'D' or better. Although LOS was formerly an acceptable measure for evaluating traffic impacts under CEQA, as of July 1, 2020, jurisdictions in California must comply with CEQA Guidelines section 15064.3(b), which requires analysis of transportation-related impacts using a vehicle miles traveled (VMT) metric. The VMT metric focuses on balancing the needs of congestion management with statewide goals related to infill development, promotion of public health through increased active transportation facilitated by closer proximity to alternative travel modes, and the reduction of greenhouse gas emissions.

In December 2018, the California Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA*[14], which provides technical recommendations for evaluating a project's transportation impact using a VMT metric, including thresholds of significance and mitigation measures. Pursuant to Government Code Section 15064.3(b), lead agencies have discretion to

[14] http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

select the most appropriate methodology for evaluating a project's VMT impacts. On June 18, 2020 and on July 30, 2020 the City of Petaluma VMT Technical Advisory Committee (TAC) met to discuss the development of Petaluma's VMT program including the appropriateness of OPR's recommended threshold of significance of 15% reduction in VMT per capita, screening criteria for specific project types, and mitigation options. At a future VMT TAC meeting Fehr and Peers and City staff will present the Draft VMT guidelines for review and feedback. Following TAC review, the Draft VMT guidelines will be reviewed by the Planning Commission who will serve as a recommending body for approval by the City Council. To date the City of Petaluma has not adopted VMT thresholds or guidelines. In the absence of locally adopted thresholds at the time of review of the proposed Casa Grande project, the City of Petaluma is relying upon recommendations set forth in OPR's Technical Advisory.

CEQA Guidelines section 15064.3 subdivision (b)(1) provides specific qualitative conditions under which a project can be presumed to result in a less than significant transportation impact. This includes projects that are located within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor or projects that decrease vehicle miles traveled in the project area as compared to existing conditions. Public Resources Code Section 21064.3 defines a major transit stop as an existing rail transit station, a ferry terminal serviced by either a bus or rail transit, or the intersection of two or more major bus routes with a frequency of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined under Public Resources Code Section 21155 as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. As previously stated, projects that meet any of these criteria can be qualitatively determined to have a less than significant impact. Project's that do not meet these, or other locally adopted screening criteria are required to conduct a quantitative analysis to determine the project's impact as it relates to the generation of VMT. As such, a Focused Traffic Study was prepared for the project by W-Trans on June 9, 2020 (**Appendix G**). W-Trans also prepared an Updated VMT Assessment dated August 12, 2020 (**Appendix H**). The Focused Traffic Study and Updated VMT Assessment analyze the project's potential transportation-related impacts.

The project site is located east of Highway 101 and State Route 116 in the southeast portion of Petaluma. It is situated at 240 and 250 Casa Grande Road, between South McDowell Boulevard and Ely Boulevard South. Casa Grande Road provides east-west access and is classified as an arterial street with a posted speed of 35 miles per hour (mph). The road is configured with two twelve-foot travel lanes in each direction as well as a two-way center turn lane bisecting the travel lanes. Lakeville Street, South McDowell Boulevard, and Ely Boulevard South provide north-south access from the project site to the greater Petaluma area, and connect to Highway 101, providing regional access. All three roadways are also classified as arterial streets, which provide relatively high speed and high capacity access to regional transportation facilities.

The project site is currently served by fixed route bus service operated by Petaluma Transit. Route 33 provides service to retail, recreational, and other services in east Petaluma, including access to and from the project site. The route operates with approximately one-hour headways Monday through Friday from 7 a.m. to 8 p.m., Saturday from 8 a.m. to 8 p.m., and Sunday from 9 a.m. to 5 p.m. Transfer service is available between Route 33 and Route 11, which provides service to the Copeland Street Transit Mall and the Downtown SMART station for regional connections to Sonoma and Marin counties. Route 11 operates with approximately thirty minute headways Monday through Friday from 6:30 a.m. to 8 p.m., Saturday from 7:30 a.m. to 8 p.m., and Sunday from 8:30 a.m. to 5 p.m. Transit stops in close proximity to the project site are located on Casa Grande Road adjacent to the Casa Grande Senior Apartments and on Ely Boulevard South adjacent to Casa Grande High School.

The City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies existing and proposed bicycle routes throughout the City. Existing bicycle facilities in the vicinity of the project site include Class II bicycle lanes on Casa Grande Road from Lakeville Street to Ely Boulevard South, South McDowell Boulevard from Cypress Drive to East Washington Street, and Ely Boulevard South from Casa Grande Road to East Washington Street. Located across Casa Grande Road from the project site is Casa Grande and Sonoma Mountain High Schools. Continuous sidewalks currently exist along both sides of Casa Grande Road, Del Rancho Way, and Del Oro Circle. Pedestrian access from the project site to the west side of Casa Grande Road is limited to two crosswalks north and south of the project site approximately 0.2 miles in each respective direction. These crosswalks are located at the intersections of Casa Grande Road/Crinella Drive and Casa Grande Road/Ely Boulevard South. The City's Safe Routes to School (SRTS) program identifies Casa Grande

Road adjacent to the high school as a recommended walking and bicycling route to the campus. Speeding on Casa Grande Road was identified as a barrier to safe travel and several recommendations to improve access were made, including conducting speed surveys, implementing traffic calming measures, installing a mid-block crossing in front of the high school, installing bus shelters at nearby stops, and repainting on-street Class II bike lanes to increase visibility.

The project proposes a new looped public street that will connect Casa Grande Road to the west and Del Rancho Way to the south. Thirty-three of the residential lots will be directly accessed via driveways connecting to the new public road while the remaining three residential lots will be accessed via a private drive extending east-west between the curve of the public street and the bioretention basin. Each residential lot will contain covered and uncovered off-street parking. Twenty-nine of the residences will have four off-street parking spaces (two garage spaces and two driveway spaces) while the remaining seven residences will have two off-street parking spaces (one garage space and one driveway space). The total off-street vehicular parking count for the residences is 120 spaces (65 garage spaces and 65 driveway spaces). Each garage will also contain an electric vehicle charging station and bicycle parking area. On-street parking will be provided along the project's new public street and is anticipated to accommodate up to 12 on-street parking spaces.

New sidewalks will be installed along both sides of the new public street. These sidewalks will connect to the existing sidewalks on Del Rancho Way, as well as the sidewalk along the project site's frontage on Casa Grande Road that is proposed to be reconstructed as part of the project.

The project also proposes off-site transportation improvements with the installation of bus shelters at two nearby bus stops – one on Casa Grande Road near the Casa Grande Senior Apartments and on Ely Boulevard South adjacent to Casa Grande High School. A midblock pedestrian crossing is proposed by the project that would allow the crossing of Casa Grande Road between the project site and Casa Grande and Sonoma Mountain High Schools across the street. The crossing features a raised median with a pedestrian refuge area and rapid rectangular flashing beacon to alert drivers to crossing pedestrians.

Transportation Impact Analysis:

4.17 (a) (Conflicts with Plans, Policies, Ordinances) Less Than Significant Impact: The proposed project is generally consistent with City plans, ordinances and policies relating to the circulation system.

The Focused Traffic Impact Study (TIS) prepared for the project includes an estimate of the project's anticipated trip generation, which was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual, 10th Edition, 2017* for Single Family Dwellings (ITE LU #210) and Multi-Family Housing (Low Rise) (ITE LU #220) for the proposed junior accessory dwelling units. Though there are existing single-family residences onsite, they were not deducted as part of the trip generation analysis. It should be noted that following preparation of the TIS, the project was modified to include seven additional junior accessory dwelling units for a total of 11. The anticipated trip generation for the proposed project is shown in Table 4 below. As indicated, the project is anticipated to result in 369 trips per day, including 29 during the a.m. peak hour and 38 during the p.m. peak hour. Utilizing trip generation rates for the Multi-Family (Low Rise) land use, it can be determined that with a total of 11 junior accessory dwelling units (JADU), the project is anticipated to generate a total of 420 trips per day, including 32 during the a.m. peak hour and 42 during the p.m. peak hour. This would be a conservative estimate since JADU are expected to generate fewer daily trips than traditional multi family dwelling units. Furthermore, given the proximity of Casa Grande High School as well as bus stops within the vicinity of the project site, some project residents are expected to walk, bicycle, and utilize transit to travel to and from the project site.

Table 4 : Trip Generation Summary

		Daily		AM Peak Hour		PM Peak Hour	
Land Use	**Units**	**Rate**	**Trips**	**Rate**	**Trips**	**Rate**	**Trips**
Single Family	36 du	9.44	340	0.74	27	0.99	36
Multi-Family (Low Rise)	4 du	7.32	29	0.46	2	0.56	2
Total			**369**		**29**		**38**

Source: Table 1, p. 2, Focused Traffic Study for Casa Grande I, W-Trans, June 2020.

The City of Petaluma Traffic Guidelines state that a traffic study is needed when trip generation during the a.m. and p.m. peak hours is expected to equal or exceed 50 vehicles or when trip generation during a 24-hour period is expected to equal or exceed 500 vehicles. The trips generated by the project would not equal or exceed the standards identified by the City of Petaluma, and therefore a full traffic study was not required by the project. As shown in the table above, the peak hour trip contribution is below the City's standard and as such it can be conservatively determined that the project will not generate vehicle trips at a level that would adversely affect the transportation network or conflict with level of service standards at nearby intersections. Therefore, there would be less than significant impacts due to a conflict with transportation related plans, policies and ordinances.

Continuous sidewalks currently exist throughout the project area including along Casa Grande Road at the project's frontage, and along Del Rancho Way and Del Oro Circle. The project will install continuous sidewalks on both sides of the proposed public street which will connect to Casa Grande Road and Del Rancho Way. In addition to sidewalks along the public street, the project will also install a publicly-accessible pedestrian path on the north side of the bioretention basin between the basin and the northern project boundary. Currently, the nearest pedestrian crossings to the project site are located approximately 0.2 miles in either direction. General Plan policy 5-P-22 seeks to preserve and enhance pedestrian connectivity in existing neighborhoods and requires new developments to provide pedestrian connections to existing adjacent land uses. Additionally, General Plan policy 7-P-15 seeks to improve and expand safe pedestrian, bicycle, and transit access to all school sites. Consistent with these General Plan policies, a mid-block crossing with raised median, pedestrian refuge, and warning light system will be installed near the project frontage. Additionally, as recommended in the focused traffic study, the applicant will be required to install a radar speed feedback system on the Casa Grande project frontage, as a condition of approval, consistent with recommendations in the Casa Grande High School SRTS evaluation.

Existing bicycle facilities in the vicinity of the project site include Class II bicycle lanes on Casa Grande Road, South McDowell Boulevard, and Ely Boulevard South as well as a Class I multi-use path along the east side of Adobe Creek. The project proposes to install pavement markings on the new public street for a Class III shared bicycle route.

Existing transit routes serving the project site provide both local and regional access. Transit stops are located on Casa Grande Road near the Casa Grande Senior Apartments, approximately 0.1 miles from the project site and on Ely Boulevard South adjacent to Casa Grande High school, approximately 0.2 miles from the project site. As part of the proposed project, the two existing transit stops will be improved to provide bus shelters.

As described above, the project is generally consistent with General Plan policies regarding circulation including the City's Bicycle and Pedestrian Plan and the City's Safe Routes to School Program. Although the Project would add additional vehicles to area roadways, the project would not result in a LOS conflict. Existing pedestrian, bicycle, and transit facilities along with project improvements will provide adequate access for individuals walking and biking to and from the site. Therefore, the project will have a less than significant impact due to a conflict with transportation related plans, policies, and ordinances.

4.17 (b) (Conflict with 15064.3(b) VMT) Less Than Significant Impact: As previously discussed, W-Trans prepared a VMT assessment to analyze the project's potential to conflict with CEQA Guidelines 15064.3(b). At present, absent locally adopted VMT thresholds, the City of Petaluma is relying on guidance set forth in OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA,* which establishes that a residential project generating vehicle travel that is 15 percent or greater than the citywide residential VMT per capita would result in a significant environmental impact. As stated in the VMT Assessment, the City of Petaluma has a baseline average residential VMT of 16.62 miles per capita[15]. In order to result in a less than significant impact, the project would have to generate no more than 14.13 miles per capita, which is 15 percent below the citywide average of 16.62 miles. In addition to the citywide average VMT per capita, the Sonoma County Transportation Authority (SCTA) travel demand model also provides VMT per capita by traffic analysis zones (TAZ) which is defined as a geographic area representing homogenous travel behavior. The project site is located within a

[15] Data relies upon the available SCTA model as of May 2020, personal communication with Zack Matley, Principal W-Trans.

TAZ that generates a baseline VMT of 16.81 miles per capita[16], which is greater than the citywide average. In order for the project's per capita VMT to fall below significance levels, a 16 percent reduction below the per capita VMT for TAZ 341 is required. The project can be considered a compact infill project, which can achieve a maximum 35 percent reduction in VMT.[17]

Vehicle miles traveled is influenced by multiple factors including density, the provision of onsite affordable housing, and on- and off-site pedestrian and transit improvements. As stated in the VMT Assessment, the California Air Pollution Control Officers Association (CAPCOA) methodology contained in *Quantifying Greenhouse Gas Mitigation Measures, 2010* was used to determine the project's VMT reduction based on the residential density as compared to a typical large lot single family development. For purposes of the VMT analysis, the project was determined to have a residential density of 19.3 units per acre, inclusive of the proposed junior accessory dwelling units. Based on the proposed density, the project would result in a 10.7 percent VMT reduction, which yields a 1.81 adjustment to the base project per capita VMT.[18] In addition to overall residential density, methodology published by the California Housing Partnership in *Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy,* was used to determine VMT reductions associated with onsite affordable housing. For the purposes of this analysis, affordable units provided by the project include three moderate income, two low income, and 11 junior accessory dwelling units, which are considered low income in the City's Housing Element. Based on methodology published by The California Housing Partnership, onsite affordable housing would result in a 2.8 percent reduction in VMT and yields a 0.47 adjustment to the base project VMT per capita.

In addition to reductions associated with density and affordable housing, the project will also result in VMT reductions as a result of pedestrian and transit improvements. As discussed previously, the project will install a mid-block pedestrian crossing from the project site to Casa Grande High School which will improve access for new residents introduced to the project site as well as pedestrians in the surrounding neighborhood, and in particular, students attending Casa Grande High School. The VMT Assessment utilized the City of San Jose VMT Evaluation Tool, which estimated a 2 percent reduction in VMT associated with the proposed crosswalk and yields a 0.34 adjustment to the base project VMT per capita. Similarly, the proposed bus shelter improvements at nearby transit stops were estimated to result in a 2.5 percent reduction in VMT and yields a 0.42 adjustment to the base project VMT per capita.

The proposed project would result in a total VMT reduction of 18 percent, which, as described in the VMT Assessment is reduced to 17.1 percent to account for diminishing effects of utilizing multiple VMT reduction measures as recommended in CAPCOA methodology. Reducing the base TAZ rate of 16.81 VMT per capita by 17.1 percent, yields a combined 2.87 adjustment to the base project VMT per capita, and results in a project-specific VMT per capita of 13.94, which is below the 14.13 threshold. As such, the project will have a less than significant impact with regard to a conflict or inconsistency with CEQA Guidelines 15064.3 subdivision b.

4.17 (c) (Geometric Design Feature Hazard) Less Than Significant Impact: The Focused Traffic Study evaluated sight distances at the new driveway along Casa Grande Road based on criteria contained in the *Highway Design Manual, 6th Edition* published by Caltrans. Recommended sight distances along Casa Grande Road at the project driveway are based on stopping sight distance. Based on the design speed of 35 mph, the minimum stopping sight distance required on Casa Grande Road is 250 feet. Based on field measurements, sight distance on Casa Grande Road is approximately 400 feet to the north and 800 feet to the south. An existing utility pole is located approximately 90 feet south of the proposed driveway, however, drivers are still able to see oncoming traffic upon approach and space is also available to pull forward and increase visibility.

In addition to the main project entrance off of Casa Grande Road, the project also proposes a private drive extending east-west between the curve of the public street and the bioretention basin. Based on the driveway location on the outside of the curve, sight distance at this location provides for optimal visibility. Consistent with City standards, the project will be required to comply with signage and landscaping requirements which ensure

[16] Ibid.

[17] *Quantifying Greenhouse Gas Mitigation Measures, 2010, pg. 58, 59*

[18] Updated VMT Assessment for the 240-250 Casa Grande Road Project, prepared by W-Trans, August 12, 2020, pg. 1; *Quantifying Greenhouse Gas Mitigation Measures, 2010, pg. 156:* % VMT reduction = AxB (not to exceed 30%) where A = percentage increase in housing units per acre - number of housing units for typical ITE development (7.6) and B = Elasticity of VMT with respect to density (0.07); Calculation for the project = (19.3-7.6)/7.6 x 0.07 = 0.107 = 10.7%

project improvements do not conflict with sight distance requirements due to location within the vision triangle. As such, the project will result in less than significant impacts due to a design feature hazard.

4.17 (d) (Emergency Access) Less Than Significant Impact: The project's new public street and private driveway at the eastern portion of the site have been reviewed by the Petaluma Public Works and Fire Departments. Emergency vehicle access is provided via the proposed public street. Site circulation was determined to be adequate, including sufficient driveway width to allow for fire truck access and access to the proposed single-family buildings. Therefore, the project's potential to result in impacts due inadequate emergency access would be less than significant.

The increase of construction vehicles traveling to and from the project site on a temporary basis would not result in inadequate emergency access. Casa Grande Road would remain open to travel during construction of all phases of the proposed project. To construct the project, road closure is not anticipated, although temporary encroachment may occur during frontage improvements to Casa Grande Road. Therefore, temporary impacts to emergency access will be less than significant during project construction.

Transportation Mitigation Measures: None Required.

4.18. TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) 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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii. 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Sources: City of Petaluma General Plan 2025 and EIR; and Cultural Resources Letter Report, prepared by Analytical Environmental Services, May 14, 2019.

Tribal Cultural Resources Setting: Petaluma's tribal cultural resources contribute to the city's unique character and identifiable sense of place. The City is named after a group of native Americans called the Petalumans whose main village was at the base of Sonoma Mountain east of the Petaluma River. The city and adjacent areas contain resources that date to the inhabitation of these people as part of the larger Coastal Miwok Tribe.

A Cultural Resources Report was prepared by Analytical Environmental Services that analyzed the potential for the project to impact cultural and tribal cultural resources. The report includes previously conducted studies and recorded cultural resources discovered in the project area. As presented therein, the project site is located along the Adobe Creek and has been heavily disturbed from past activities associated with the existing residential structures and agricultural operations. Nonetheless, due to the site's location adjacent to the Adobe Creek, there is an elevated potential for the site to contain buried cultural resources.

In accordance with PRC Section 21080.3.1(d), the City of Petaluma provided written formal notification to the Federated Indians of Graton Rancheria (FIGR) on February 26, 2020, which included a brief description of the proposed project and its location, the project specific cultural resources evaluation, City staff's contact information, and a notification that the Tribe has 30 days to request consultation FIGR did not respond during or after the statutory timeframe provided by Public Resources Code §21080.3.1.

Tribal Cultural Resources Impact Analysis:

4.18 (ai) (Listed or Eligible for Listing) No Impact: As stated in the Cultural Resources Report prepared by AES, a search of the Sacred Lands file was conducted and did not indicate the presence of a Native American Sacred Site within or in the immediate vicinity of the project site. Therefore, the project would have no impact on a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

4.18 (aii) (Significant Resource) Less Than Significant Impact with Mitigation: As presented in the Cultural Resources Report and discussed in the Cultural Resources section of this report, no archeological resources were identified during the site survey and no available records identified the presence of cultural resources on or adjacent to the project site. Although records review and onsite surveys yielded negative results, the project site is identified as having an elevated potential to contain buried cultural resources given its proximity to the Adobe Creek. As such, implementation of the proposed project has the potential to result in a significant impact to tribal cultural resources if encountered during ground disturbing activities. **Mitigation Measure TCUL-1** requires implementation of mitigation measures provided under the Cultural Resources discussion, which provides protection of cultural resources, including tribal cultural resources in the event of accidental discovery. As such, the project will have a less than significant impact to tribal cultural resources.

Tribal Cultural Resources Mitigation Measure:

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

4.19. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the	☐	☐	☒	☐

project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; Preliminary Drainage Analysis, Steven J. Lafranchi & Associates, Inc., Oct 2019; Stormwater Control Plan For a Regulated Project DRG Casa Grande, Steven J. Lafranchi & Associates, Inc., Oct 9, 2019; Preliminary Maximum Applied Water Allowance - Landscape Architect, Feb 13, 2020.

Utilities and Service Systems Settings: The City of Petaluma collects development and capacity fees on new construction within the City to support the maintenance and growth of public utility infrastructure, including water, wastewater, and storm drains. The project is subject to all applicable development fees.

Water Supplies

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 via the Petaluma Aqueduct through 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 approximately 60,000 customers 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. In 2015, the City updated its UWMP including a baseline demand analysis in compliance with the interim 2015 Urban Water Use target, an Urban Water Use target analysis for 2020, projected water use through 2040, and identified programs to achieve the target water demand reductions.

Based on the evaluation of future Russian River supply including, minimum in-stream flow requirements, Sonoma Water expects to obtain water rights approvals necessary to increase its total diversions above 75,000 acre-feet per year (AFY) by 2027 and to 80,000 AFY by 2035. This assumption is based on the most likely outcome of decisions by regulatory agencies and implementation of the Restructured Agreement (executed in 2006) and proposed improvements to the water delivery system.

To assure that the City of Petaluma has sufficient water supplies to meet increased water demand, the General Plan requires routine monitoring of water supplies against actual use and evaluation for each new development project (Policy 8-P-4). Development of the project site at the proposed density has been planned for in the General Plan and EIR and captured in the water demand assumptions of the City's UWMP. The City's water supplies are sufficient to accommodate increased demand generated by the proposed project.

The project is subject to the latest building code standards, which require water efficiency for indoor and outdoor water uses. The City imposes a Maximum Applied Water Allowance (MAWA) for landscaping, which minimizes water use for irrigation. A preliminary report assessing the MAWA indicates that the project is able to achieve the MAWA targets by introducing a mix of low and moderate water demanding plants.

Wastewater

The Ellis Creek Water Recycling Facility treats all wastewater generated by the City of Petaluma and the unincorporated Sonoma County community of Penngrove. The collection system is comprised of approximately 195 miles of underground piping and nine (9) pump stations. The treatment capacity is about 6.7 million gallons per day (average dry weather flow). Approximately five (5) million gallons per day are treated under the existing wastewater generation condition, leaving approximately 1.7 million gallons in available treatment capacity. In

the winter, secondary treated wastewater effluent is conveyed to the Petaluma River. 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. The City's wastewater infrastructure and treatment facility are sufficient to accommodate increased demand from the proposed project.

Storm Drains

Within the City of Petaluma storm drains convey runoff from impervious surfaces such as streets, sidewalks, and buildings to gutters that drain to creeks and the Petaluma River and ultimately the San Pablo Bay. Most stormwater is untreated and carries with it any contaminants picked up along the way such as solvents, oils, fuels and sediment. The City has implemented a storm drain-labeling program to provide a visual reminder that storm drains are for rainwater only. The City's Stormwater Management and Pollution Control Ordinance, set forth in Chapter 15.80 of the City's Municipal Code, establishes the standard requirements and controls on the storm drain system. All existing and proposed development must adhere to the City's Stormwater Management and Pollution Control Ordinance.

Steven J Lafranchi & Associates, Inc. prepared a site-specific preliminary Stormwater Control Plan and a Preliminary Drainage Analysis. The project will increase the total post-project impervious surface area from 13,370 square feet to 96,645 square feet. The Stormwater Control Plan describes the operation of an advanced stormwater capture system designed to collect rainwater runoff from new impervious surfaces through a network of bioretention basins, drainage swales, gutters and new piping that will divert runoff into existing the existing storm drain system. The Preliminary Drainage Analysis evaluates the capacity of the project's stormwater plan to accommodate the stormwater runoff from a 10-year storm event. These studies demonstrate that the project has been designed to comply with City and County requirements for stormwater management.

Utilities and Service Systems Impact Analysis:

4.19 (a) (Relocation/Expansion of Utilities) Less Than Significant Impact: The project site is well served by existing utilities. Existing water, wastewater, electric power, natural gas, and telecommunications facilities extend to the project site and have sufficient capacity to service the proposed 36-unit development. Based on the size and scale of development the project will not require or result in the relocation or expansion of utilities. Therefore, the project is expected to result in less than significant impacts.

Currently, there is no storm drain system located onsite and stormwater runoff sheet flows downgrade. The proposed project will increase impervious surfaces onsite from new buildings, the new public street, walkways, and driveways. The project includes approximately 96,645 square feet of impervious surfaces with the remaining areas to be landscaped. Onsite drainage improvements will be installed during construction and designed to capture stormwater runoff and convey flows to the onsite bioretention area.

The project proposes Low Impact Design (LID) strategies which are intended to control storm water using natural techniques. Proposed strategies include tree plantings and permeable concrete and bioretention areas that capture stormwater runoff during precipitation events and provide treatment prior to release into the City's stormwater drainage system. According to the Preliminary Drainage Analysis of the proposed LID measures and compliance with stormwater requirements, the project will not significantly increase runoff relative to the existing condition and no new offsite stormwater facilities will be required. Therefore, the project will have less than significant impacts due to the expansion of existing storm water drainage facilities or construction of new facilities.

4.19 (b) (Sufficient Water Supplies) Less Than Significant Impact: In evaluating the sufficiency of water supplies to meet existing water demands in addition to water demand generated by the proposed project, the City has compared General Plan 2025 projected water demand to actual use. In 2018 the City's average per capita water usage rate was 75.35 gallons per capita per day (GPCD).[19] In tracking water use, the primary driver is the SB X7-7 20x2020 compliance requirement, which requires the City to calculate the baseline GPCD, a 2015 target, and a 2020 target. As presented in the City's UWMP the SB X7-7 GPCD target for the City of

[19] *Water Usage Summary February 2019, City of Petaluma Department of Public Works.*

Petaluma, was 130.74 for the year 2018, which the City elected to track outside of standard requirement.[20] Additionally, as presented in UWMP, the SB X7-7 GPCD target for 2020 is 136.[21] Based on projected use and average per capita use as of 2018, the City is meeting the planned GPCD target and available Sonoma Water supplies. Therefore, existing supplies will be sufficient to meet demand of the project and existing and planned demands through 2035 as set forth in the 2015 UWMP.

As noted in General Plan 2025 Policies 8-P-5-C and 8-P-19, the City anticipated continuing use of groundwater to meet emergency needs and to offset peak demands. Per Policy 8-P-4 of the Petaluma General Plan 2025, City staff is required to monitor actual demand for potable water in comparison to the supply and demand projections in the 2006 Water Supply and Demand Analysis Report. Based on the 2015 UWMP, the demand for potable water supplies in 2015 was 8,226 acre-feet for all uses including single and multi-family residential, commercial, industrial, institutional/governmental, and landscaping. By 2040 the water demand for buildout of the General Plan is projected to be 9,435 acre-feet per year.[22] The UWMP establishes a 2015 baseline daily per capita water use of 111 gallons based on a gross water use of 7,678 acre-feet per year. For year 2015, the UWMP concludes that the City complies with the 2020 water use target, which aims to achieve a 5% reduction in the per capita use relative to the 5-year baseline.

A comparison of actual demand for potable water was made relative to the annual Sonoma Water supply limit for Petaluma of 4,366 million gallons per year (13,400 acre-feet) and a peak supply limit of 21.8 million gallons per day. In both instances, potable demand is well within available supply capacity. The projected demand is less than 10,000 acre-feet.[23] In recent years, tiered water rates, conservation efforts, and the conversion of Rooster Run Golf Course to recycled water have kept annual and peak demands within the available supply.

The UWMP establishes Demand Management Measures and a Water Shortage Contingency Plan (2016 Updated), which provide a means for water conservation and planning for periods of drought. Additionally, individual development projects are required to comply with the City's Water Conservation Ordinance for interior and exterior water usage, thereby minimizing water demands generated by new development. The UWMP concludes that there are sufficient water supplies to meet water demands projected by the General Plan.

The proposed project is consistent with development anticipated by the General Plan and water demands are captured in the 2015 UWMP for future year conditions. Additionally, the project will be subject to the latest California Building Code requirements including plumbing and water efficiency standards as well as the City's Water Conservation Ordinance, which will further reduce water demands generated by the proposed Project. Therefore, existing water supplies, facilities, and infrastructure are sufficient to meet the water demands of the project and future development during normal, single, and multiple dry year events. Impacts of the project to water supplies are considered to be less than significant.

4.19 (c) (Sufficient Wastewater Treatment Capacity) Less Than Significant Impact: The expected wastewater generated by the project is consistent with the service needs anticipated by the Petaluma General Plan 2025 and will not require the expansion of treatment facilities. Applicable City Wastewater Capacity fees will be collected to fund the project's share for use of wastewater facilities and planned improvements. Wastewater flows from the proposed project will be conveyed to the Ellis Creek Water Recycling Facility, which has sufficient operating capacity to handle the additional flows generated by the proposed project. There would be no new construction or expansion of wastewater facilities as part of the proposed project.

As a 36-unit residential development, the project is not expected to exceed wastewater treatment requirements set forth by the Regional Water Quality Control Board, nor necessitate the expansion or construction of wastewater treatment facilities. The estimated wastewater generation of the proposed project falls within the capacity of the existing sanitary sewer lines and the City's wastewater treatment plant. The project does not include any activities that would generate wastewater requiring special treatment nor would it contain constituents exceeding applicable standards. The project would not exceed wastewater treatment requirements

[20] *City of Petaluma 2015 Urban Water Management Plan, Appendix D, page 23.*
[21] Ibid
[22] *City of Petaluma 2015 Urban Water Management Plan, Table 3-6, Total Water Demands.*
[23] *See Item 4(B) of June 1, 2015 City Council agenda (http://cityofpetaluma.net/cclerk/archives.html).*

and adequate treatment capacity would be available to accommodate wastewater generated by the project. Therefore, the project would have less than significant impacts to wastewater treatment facilities.

4.19 (d, e) (Solid Waste Generation/Compliance with Solid Waste Management) Less Than Significant Impact: The proposed project consists of demolition of existing site improvements, development of 36 single-family dwelling units, the construction of a new public street, and the creation of a common lot that will contain a bioretention basin. Construction and operation of the project will contribute to the generation of solid waste. As a residential project the amount of solid waste generated will be consistent with the service needs anticipated by the Petaluma General Plan and evaluated in the General Plan EIR.

General Plan policy 4-P-21 requires waste reduction in compliance with the Countywide Integrated Waste Management Plan (ColWMP). Construction related waste will be reduced, consistent with General Plan Policy 2-P-122, through the development of a construction waste management plan mandated by the California Green Building Standards Code.

The City is under contract with Recology for solid waste disposal and recycling services. Recology provides canisters for garbage, green (plant waste) materials, and recycling. Solid waste is collected and transferred to the Sonoma County landfill sites. Solid waste disposal facilities are owned and operated by the Sonoma County Department of Transportation and Public Works and the City maintains a franchise solid waste hauling agreement requiring the franchise hauler as part of its contractual obligations to select properly permitted Approved Disposal Location(s) with adequate capacity to serve city service needs. The project would be supplied with the same solid waste and recycling opportunities through the County's existing waste management system via the City's solid waste service provider. Although the project would generate additional solid waste, it is not expected to exceed landfill capacity and is not expected to result in violations of federal, state, and local statutes and regulations related to solid waste. Therefore, the project will have a less than significant impact due to the generation and disposal of solid waste.

Utilities and Service Systems Mitigation Measures: None Required.

4.20. WILDFIRE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks,	☐	☐	☒	☐

including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	

Sources: 2025 General Plan and EIR; CalFire Fire Hazard Severity Zone Maps, Sonoma County, 2019; and Petaluma Fire Prevention Bureau, Fire Hazard Severity Zones.

Wildfire Setting: Petaluma is susceptible to wildland fires due to the steep topography, abundant fuel load as trees, bushes and grassland surrounding the City, and climatic conditions. Areas most susceptible to fire hazards are located near the City margins and the Wildland Urban Interface Area. Lands surrounding the City of Petaluma that are within the State Responsibility Area are classified as moderate fire hazard severity zone to the west and south of the City and high and moderate to the east and north. The hills within the southern City limits are classified as Very High Fire Hazard Severity Zone (VHFHSZ) as part of the city's local responsibility areas determined by the Petaluma Fire Prevention Bureau.

In October 2017, the Tubbs Fire (Central LNU Complex) burned approximately 36,807 acres in Sonoma County. In October 2019, the Kincade Fire burned approximately 77,758 acres in Sonoma County. Residents were exposed to direct effects of wildfires, such as the loss of structures and to secondary effects, such as smoke and air pollution. Smoke generated by wildfires consists of visible and invisible emissions that contain particulate matter (soot, tar, water vapor, and minerals) and gases (carbon monoxide, carbon dioxide, nitrogen oxides). Public health impacts associated with wildfires include difficulty in breathing, odor, and reduction in visibility.

The project site is located in southeast Petaluma along the Adobe Creek. Surrounding uses include single-family residences to the south, east, and north, and Casa Grande and Sonoma Mountain High Schools to the west. The project site is generally flat and has historically been used for residential and agricultural uses. The project site is not located within a fire hazard severity zone of local or state responsibility. The nearest land located within the state responsibility area is approximately 0.3 miles southeast of the site and is classified as a moderate fire hazard severity zone.

Wildfire Impact Analysis:

4.20 (a) (Impair Emergency Plan) Less than Significant Impact: The project site is categorized as a Non-VHFHZ by CAL FIRE and by Petaluma's Fire Prevention Bureau. Though the project site is located approximately 0.3 miles from a state responsibility area classified as a moderate fire hazard severity zone, it is not located within or immediate adjacent to land classified as a very high fire hazard severity zone. The proposed development will be required to comply with all fire safety standards set forth by the City of Petaluma and is not expected to substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, the project would have a less than significant impact under this criterion.

4.20(b-d) (Wildfire Risk Exacerbation, Infrastructure Contributing to Wildfire Risk, Exposure to Wildfire-Related Risks) Less Than Significant Impact: The project site is relatively flat and is surrounded by existing development. The project will be required to comply with the latest California Building and Fire codes, which contain fire prevention standards. Furthermore, there are no factors, such as steep slopes, prevailing winds, or the installation/maintenance of new infrastructure, that would exacerbate fire risk or expose project occupants to the uncontrolled spread of a wildfire, pollutant concentrations from a wildfire, post-fire slope instability, or post-fire flooding. Therefore, the project would have less than significant impacts related to wildfire risks.

Wildfire Mitigation Measures: None required.

4.21. MANDATORY FINDINGS OF SIGNIFICANCE (CAL. PUB. RES. CODE §15065)

A focused or full environmental impact report for a project may be required where the project has a significant effect on the environment in any of the following conditions:

	Potentially Significant Impact	Less Than Significant with	Less than Significant Impact	No Impact

Would the project:		Mitigation Incorporated		
a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) 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)?	☐	☐	☒	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Mandatory Findings Discussion:

4.21 (a) (Degrade the Environment) Less Than Significant Impact with Mitigation Incorporated: As presented throughout this analysis the project has the potential to result in temporary and permanent impacts to environmental resources. However, with standard condition of approval and implementation of mitigation measure identified herein, potential impacts will be reduced to less than significant levels. As described above in the Biological Resources discussion, impacts to special-status plants, wildlife species, or sensitive habitat communities will be avoided or reduced with implementation of mitigation measures. Additionally, the Cultural Resources discussion identifies measures to ensure that potential impact to buried cultural resources are avoided. The Hydrology and Water Quality discussion and the Geology discussion identify measures to avoid and minimize potential environmental impacts associated with water quality, flooding, and soil stability. As described above, the project proposes onsite stormwater improvements that will capture runoff and provide for pretreatment prior to discharging to the City's storm drain system. No other impacts associated with environmental degradation, plant or animal communities, species population and ranges, or California history or pre-history have been identified. As such, with conditions of approval imposed by the City and implementation of mitigation measures set forth herein, the project will not degrade the quality of the environment, reduce habitat, or affect cultural resources. Therefore, the project will have less than significant impacts due to degradation of the environment.

4.21 (b) (Cumulatively Affect the Environment) Less Than Significant Impact: The project will contribute to cumulative impacts identified in the City's General Plan EIR but not to a level that is considered cumulatively considerable. As described above, the project will contribute to incremental growth in the City resulting in increased demands for public services and utilities, additional trips on City and regional roadways, and contributions to air quality and GHG emissions. Given that the scale of the project is limited to a 36-unit residential development, the incremental increase in cumulative demand will be negligible.

The project's application for a zoning change from R4 to PUD and vesting tentative map to subdivide the property into 36 lots with two common lots will implement the intent of the UGB through the development of a an underutilized parcel in the existing urbanized area at an elevated density (General Plan Policy 1-P-2). Public utility and service providers will be capable of serving the project with existing or planned facilities. Potential environmental impacts are expected to remain at, or be mitigated to levels below significance, and long-term

environmental goals are not expected to be adversely impacted by the project. Therefore, the project's cumulative impacts will be less than significant.

4.21 (c) (Substantial Adverse Effect on Humans) Less Than Significant Impact: The project has the potential to result in adverse impacts to humans due to air quality, biological resources, geology and soils, noise, and hydrology and water quality. With mitigation measures set forth above, environmental effects that would directly or indirectly impact human beings onsite or in the project vicinity will be reduced to less than significant levels. Therefore, the project will have less than significant impacts due to substantial adverse effects on human beings.

Mitigation Measures: None required.

5. REFERENCE DOCUMENTS

5.1. TECHNICAL APPENDICES

A. Arborist Report, prepared by Becky Duckles, October 9, 2019

B. Biological Resources Assessment, prepared by Analytical Environmental Services, April 2020

C. Cultural Resources Letter Report (CONFIDENTIAL), prepared by Analytical Environmental Services, May 14, 2019

D. Geotechnical Investigation, prepared by PJC & Associates, Inc., September 27, 2019

E. Phase I Environmental Site Assessment, prepared by Analytical Environmental Services, May 2019

F. Phase II Limited Sampling Report, prepared by Analytical Environmental Services, June 2020

G. Focused Traffic Study, prepared by W-Trans, June 9, 2020

H. Updated VMT Assessment, prepared by W-Trans, August 12, 2020

5.2. OTHER DOCUMENTS REFERENCED

1. American Community Survey 2018 5-Year Estimate, Selected Housing Characteristics, Table DP04, Petaluma.

2. Architectural Review Drawings, prepared by Edward C. Novak Architect, February 3, 2020, revised August 25, 2020.

3. BAAQMD 2017 Bay Area Clean Air Plan, prepared by the Bay Area Air Quality Management District, April 2017.

4. Bay Area Air Quality Management District website, Air Quality Index – Fine Particulate Matter, November 2019.

5. California Scenic Highway Mapping System, Scenic Highway System Lists, 2019.

6. California Department of Conservation, Farmland Mapping and Monitoring Program, Sonoma County, 2016.

7. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.

8. CalFire Fire Hazard Severity Zone Maps, Sonoma County, 2019.

9. California Energy Consumption Database, Electricity and Natural Gas Consumption by Sonoma County 2018.

10. California Energy Commission, Energy Almanac, Total System Electric Generation, 2018.

11. California Energy Commission, Energy Almanac, Supply and Demand of Natural Gas in California, 2018.

12. California Energy Commission, Energy Almanac, Transportation Energy, 2018.

13. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.

14. California Green Building Standards Code (CalGreen), effective January 1, 2020.

15. Casa Grande Adobe Creek HEC-RAS 2D Results Summary, prepared by WEST Consultants, Inc., September 3, 2019

16. Casa Grande High School Safe Routes to School Engineering Evaluation, prepared by W-Trans, April 15, 2019.

17. City of Petaluma, General Plan 2025 and Environmental Impact Report, 2008.

18. City of Petaluma Municipal Code and Implementation Zoning Ordinance.

19. City of Petaluma 2015 Urban Water Management Plan, prepared June 2016.

20. Civil Engineering Plans, prepared by Steven J Lafranchi & Associates, June 8, 2020, revised August 25, 2020.

21. Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared by the Sonoma County Regional Climate Protection Authority, July 2016.

22. Federal Emergency Management Agency's Flood Insurance Rate Map, Map Number 06097C1001G, October 2, 2015.

23. Groundwater Basin Boundary Assessment Tool, CA Dept. of Water Resources, November 2019.

24. Petaluma Valley Groundwater Sustainability Agency, Draft Petaluma Valley Groundwater Sustainability Plan, 2019.

25. Petaluma Housing Element 2015 – 2023, Attachment 1.

26. Preliminary Drainage Analysis prepared by Steven J. Lafranchi & Associates, October 2019.

27. Preliminary Maximum Applied Water Allowance Calculations for Typical Lots 1, 5, 9, 23, and 29 Andrea Chapman - Landscape Architect, February 13, 2020.

28. Preliminary Stormwater Control Plan for a Regulated Project DRG Casa Grande, prepared by Steven J. Lafranchi & Associates, Inc., October 9, 2019.

29. Petaluma Fire Prevention Bureau, Very High Fire Hazard Severity Zones, June 2007.

30. Permit Sonoma's Williamson Act Properties 2017.

31. Photometric Plan, Associated Lighting Representative, February 7, 2020.

32. Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, August 2010.

33. Sonoma Clean Power 2019 Annual Report

34. Sonoma County Water Agency Stream Maintenance Program Zone 2A map, November 2019.

35. Sonoma County Draft Vital Lands Initiative, December 2019.

6. MITIGATION MONITORING AND REPORTING PROGRAM

City of Petaluma, California

Community Development Department
Planning Division
11 English Street, Petaluma, CA 94952

Project Name: **Casa Grande**

File Number: **File No. PLMA 19-0006**

Address/Location: 240 and 250 Casa Grande Road, Petaluma, CA
(APN: 017-040-020 & -059)

MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared in conformance with Section 21081.6 of the California Environmental Quality Act (CEQA) and Section 15097 of the CEQA Guidelines. This document has been developed to ensure implementation of mitigation measures and proper and adequate monitoring/reporting of such implementation. CEQA requires that this MMRP be adopted in conjunction with project approval, which relies upon a Mitigated Negative Declaration.

The purpose of this MMRP is to: (1) document implementation of required mitigation; (2) identify monitoring/reporting responsibility, be it the lead agency (City of Petaluma), other agency (responsible or trustee agency), or a private entity (applicant, contractor, or project manager); (3) establish the frequency and duration of monitoring/reporting; (4) provide a record of the monitoring/reporting; and (5) ensure compliance.

The following table lists each of the mitigation measures adopted by the City in conjunction with project approval, the implementation action, timeframe to which the measure applies, the monitoring/reporting responsibility, reporting requirements, and the status of compliance with the mitigation measure.

Implementation

The responsibilities of implementation include review and approval by City staff including the Engineering, Planning, and Building divisions. Responsibilities include the following:

1. The applicant shall obtain all required surveys and studies and provide a copy to the City prior to issuance of grading permits or approvals of improvements plans.
2. The applicant shall incorporate all applicable code provisions and required mitigation measures and conditions into the design and improvement plans and specifications for the project.
3. The applicant shall notify all employees, contractors, subcontractor, and agents involved in the project implementation of mitigation measures and conditions applicable to the project and shall ensure compliance with such measures and conditions.
4. The applicant shall provide for the cost of monitoring of any condition or mitigation measure that involves on-going operations on the site or long-range improvements.

5. The applicant shall designate a project manager with authority to implement all mitigation measures and conditions of approval and provide name, address, and phone numbers to the City prior to issuance of any grading permits and signed by the contractor responsible for construction.
6. Mitigation measures required during construction shall be listed as conditions on the building or grading permits and signed by the contractor responsible for construction.
7. All mitigation measures shall be incorporated as conditions of project approval.
8. The applicant shall arrange a pre-construction conference with the construction contractor, City staff and responsible agencies to review the mitigation measures and conditions of approval prior to the issuance of grading and building permits.

Monitoring and Reporting

The responsibilities of monitoring and reporting include the engineering, planning, and building divisions, as well as the fire department. Responsibilities include the following:

1. The Building, Planning, and Engineering Divisions and Fire Department shall review the improvement and construction plans for conformance with the approved project description and all applicable codes, conditions, mitigation measures, and permit requirements prior to approval of a site design review, improvement plans, grading plans, or building permits.
2. The Planning Division shall ensure that the applicant has obtained applicable required permits from all responsible agencies and that the plans and specifications conform to the permit requirements prior to the issuance of grading or building permits.
3. Prior to acceptance of improvements or issuance of a Certificate of Occupancy, all improvements shall be subject to inspection by City staff for compliance with the project description, permit conditions, and approved development or improvement plans.
4. City inspectors shall ensure that construction activities occur in a manner that is consistent with the approved plans and conditions of approval.

MMRP Checklist

The following table lists each of the mitigation measures adopted by the City in connection with project approval, the timeframe to which the measure applies, the person/agency/permit responsible for implementing the measure, and the status of compliance with the mitigation measure.

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
AIR QUALITY				
AQ-1: Latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust during all construction activities shall be incorporated into all demolition and construction plans to require implementation of the following: 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 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 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 Title 13, Section 2485 of California Code of Regulations [CCR]). 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 mechanic and determined to be running in proper working condition prior to operation. 8. A publicly visible sign shall be posted 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.	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Planning Division • Building Division		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
AQ-2: The Applicant and contractor(s) shall implement additional construction mitigation measures recommended by BAAQMD, when activities occur within 100 feet of nearby sensitive receptors, including the following: 1. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time should be avoided. 2. Idling time of diesel-powered construction equipment shall be limited to two minutes. 3. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM. 4. Require all contractors to use equipment that meets California Air Resource Board's (CARB) most recent certification standard for off-road heavy-duty diesel engines	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Planning Division • Building Division		
BIOLOGICAL RESOURCES				
BIO-1: To minimize potential impacts to the Adobe Creek habitat area, a 50-foot setback shall be established from the edges of the riparian corridor. The established setback shall be confirmed by a qualified biologist prior to approval of grading permits. The setback shall be demarcated by silt fencing and shall remain onsite until all grading and groundwork is complete. Staging of vehicles, construction equipment, and other materials within the 50-foot setback area shall be prohibited.	• Measures shall be included in project design and construction documents. • Inspection by a qualified biologist shall be conducted prior to commencement of earthwork activities.	• Applicant • Planning Division • Qualified Biologist		
BIO-2: To increase the quality of the riparian habitat, non-native Himalayan blackberry shall be removed by hand along the edge of the Adobe Creek corridor. Bare ground in areas cleared of invasive vegetation shall be replanted with native vegetation, as recommended by a qualified biologist. Following construction of the project, control of Himalayan blackberry	• Measures shall be included in project design and construction documents.	• Applicant • Planning Division • Qualified Biologist		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
populations along the riparian corridor shall occur annually through hand-clearing for a period of no less than three years.	• Conduct clearing in conformance with measures herein.			
BIO-3: Rare plant bloom surveys shall be conducted by a qualified biologist yearly throughout the project planning stages and prior to commencement of ground disturbing activities to determine if special-status plant species with the potential to occur onsite are present. Surveys shall be conducted within the bloom period of the identified plant species and results shall be submitted in writing to the City of Petaluma. Should special-status plant species be observed onsite, a 25-foot no disturbance buffer, demarcated with high visibility fencing, shall be installed around the population. In the event that special-status plants are located within areas proposed for development, the applicant shall consult with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife to identify further mitigation required. In the event that the special-status survey identifies presence of rare plants, then areas onsite where special status species are present shall be avoided through site design modifications that preclude development into sensitive habitat areas. In the event that avoidance cannot be achieved then a mitigation plan shall be developed in consultation with USFWS and CDFW. If the plant is state listed (CESA) then an incidental take permits (ITP, 2081 agreement) shall be acquired from the CDFW prior to any grading activity. All provisions of the ITP shall be verified by the City prior to the issuance of grading permits. Alternatively, at the discretion of CDFW for state listed species, compensatory credits at an approved mitigation bank or the preservation of offsite habitat may be determined to be an acceptable means of mitigation. Proof of the purchase of mitigation credits shall be provided to the City prior to issuance of grading permits. In the event that the special-status survey identifies presence of a CNPS Rank 1B or 2 plant species and removal cannot be avoided, then a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division, CDFW, and USFWS in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW • USFWS		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Luther Burbank Home & Gardens). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) at an off-site protected property. The applicant shall retain a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City and appropriate resource agency (CDFW and/or USFWS) no later than December 1st each monitoring year. Alternatively, at the discretion of the City for CNPS species, compensatory credits at an approved mitigation bank or the preservation of offsite habitat may be determined to be an acceptable means of mitigation. Proof of the purchase of mitigation credits shall be provided to the City prior to issuance of site grading permits.				
BIO-4: No more than five days prior to commencement of ground disturbing activities, a qualified biologist shall conduct a pre-construction survey for Foothill yellow-legged frog, California red-legged frog, and Western pond turtle, results shall be submitted in writing to the City of Petaluma. To minimize the potential of these species entering areas of ground disturbance, exclusionary fencing shall be installed. A qualified biologist shall be onsite during installation of fencing to ensure species do not become entrapped within areas of disturbance. Prior to commencement of ground disturbing activities, a qualified biologist shall conduct an Environmental Awareness Training to construction personnel for Foothill yellow-legged frog, California red-legged frog, and Western pond turtle. The training shall include presentation and distribution of materials that contain, at a minimum, information related to habitat requirements, life history, and actions to be taken for each species in the event that they are observed onsite. Proof of the training shall be kept on the	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
project site throughout the course of ground disturbing construction activities and shall be provided to the City upon request.				
BIO-5: Should construction activities commence during the bird nesting season (February 15 to September 15), a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests. Should active nests be identified, a disturbance-free buffer shall be established based on the needs of the species identified and shall be maintained until a qualified biologist verifies that the nestlings have fledged, or the nest has failed. Should construction activities cease for 14 consecutive days or more within the nesting season, an additional nesting bird survey shall be required prior to resuming ground disturbing activities. Results of the nesting bird survey shall be submitted in writing to the City of Petaluma.	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW		
BIO-6: To avoid impacts to special-status bats, a qualified biologist shall conduct a pre-construction survey of the structures and trees that would be impacted by the project no more than 14 days prior to demolition or commencement of ground disturbing activities. Results of the survey shall be documented and provided in writing to the City of Petaluma. To avoid hibernation and rearing periods, ground disturbance occurring within 50 feet of areas identified as pallid bat habitat shall be restricted to between August 31st and October 15th, or between March 1st and April 15th. If bats, or evidence of bat roosting, is observed within structures proposed for demolition, CDFW shall be notified and an appropriate exclusionary method shall be implemented. Exclusion methods may include one-way exits from roost habitat. All exclusion methods shall be facilitated by a qualified biologist and shall not occur outside of the date ranges listed above to avoid exclusion of habitat during hibernation or rearing.	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
CULTURAL RESOURCES				
CUL-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).	• Conduct construction in conformance with measures herein. • Notify Professional Archaeologist and Planning Division in the event of potentially significant archaeological resource discovery. • Include measure on project construction and improvement plans.	• Applicant • Planning Division • Qualified archaeologist		
GEOLOGY AND SOILS				
GEO-1: Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City Engineer for review. All earthwork, grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City of Petaluma's Grading and Erosion Control Ordinance #1576, Title 17, Chapter 17.31 of the Petaluma Municipal Code. These plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.	• Compliance with approved erosion control plan.	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
GEO-2: Prior to issuance of a grading permit, a soils and geological report shall be submitted to the City Engineer for review pursuant to the City of Petaluma's Ordinance #1576, Title 17, Chapter 17.31.180. The soils report shall detail the strength and characteristics of the soils onsite and provide conclusions and recommendations for grading procedures and design criteria as appropriate. Techniques used to correct expansive soils include controlled pre-watering prior to the placement of foundations, removal of expansive material and replacement with non-expansive fill, and/or the use of soil stabilizers.	• Incorporate geotechnical recommendations into project construction and improvement plans. • The project geotechnical engineer shall inspect the construction work and shall certify to the City, prior to issuance of a certificate of occupancy that the improvements have been constructed in accordance with the geotechnical specifications.	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division		
HAZARDS AND HAZARDOUS MATERIALS				
HAZ-1: In order to avoid potential impacts related to the release of asbestos-containing materials or lead-based paint, an asbestos survey adhering to sampling protocols outlined by the Asbestos Hazard Emergency Response Act (AHERA) and lead-based paint screening shall be conducted prior to demolition of the existing structures. In the event that such substances are found, the applicant shall be subject to requirements set forth by the Occupational Safety and Health Administration (OSHA) AHERA requirements, lead standard contained in 29 CFR 1910.1025 and 1926.62, and any other local, state, or federal regulations. Treatment, handling, and disposal of these materials shall adhere to all requirements established by OSHA and other agencies.	• Submittal of asbestos • and lead based paint screening. • Development and implementation of a removal and disposal plan to be submitted to the City and carried out by the contractor. • J Permit from the BAAQMD if required.	• Planning Division • Fire Department • BAAQMD		

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MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
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HAZ-2: Excavation and proper disposal of contaminated material shall occur in the area surrounding sample point 1, as identified in the Phase II Report, as well as beyond the extent of observable contamination. Contaminated material shall be disposed of consistent with federal, state, and local regulations at a facility licensed to receive such materials. Following excavation, additional soil sampling shall be conducted at sample point 1 to assess whether concentrations exceeding residential environmental screening levels remain present. Should contamination exceeding ESL be detected, further excavation and remediation shall be conducted under the supervision of a qualified professional until sampling confirms that concentrations fall below residential ESL. Documentation demonstrating remediation activities, disposal, and resulting concentrations below residential ESL shall be made available to the City of Petaluma prior to the issuance of occupancy.	• Incorporate recommendations from Phase II Report into grading plans. • Conduct excavation and provide documentation in conformance with measure contained herein.	• Applicant • Planning Division • Building Division		
HYDROLOGY AND WATER QUALITY				
HYDRO-1: Following construction of the residential buildings within the FP-C (Flood Plain – Combining District), and prior to occupancy, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator. The Floodplain Administrator shall require standards in accordance with the FP-C, such as the following: 1. All new improvements shall be anchored to present flotation, collapse, or lateral movement. 2. All new improvements shall be constructed with materials and utility equipment resistant to flood damage and using methods and practices to minimize flood damage. 3. All electrical, heating, air conditioning, ventilation, and plumbing shall be designed and located to prevent water from entering or accumulating within components during flooding. 4. All new construction and improvements shall insure that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by	• Incorporate into project design and construction documents. • Conduct construction in conformance with measures herein.	• Applicant • Planning Division • Building Division • Public Works and Utilities		

CASA GRANDE MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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allowing for the entry and exit of flood waters. A minimum of two opening not less than one square inch for every square foot of enclosed area shall be provided.				
NOISE				
NOI-1: The following Best Construction Management Practices shall be implemented to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance: 1. Limit construction hours to between 8 a.m. and 5:30 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday. Construction activities shall be prohibited on Sundays and State, Federal and Local Holidays. 2. Delivery of materials and equipment to the site and truck traffic coming to and from the site is restricted to the same construction hours specified above. 3. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. 4. Unnecessary idling of internal combustion engines shall be strictly prohibited. 5. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors. 6. Acoustically shield stationary equipment located near residential receivers with temporary noise barriers. 7. Utilize "quiet" air compressors and other stationary noise sources where technology exists. 8. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities.	• Conduct construction in conformance with measures herein. • Incorporate into project design and construction documents. • Maintain delivery, hauling and construction in accordance with measure. • Provide notice to surrounding properties in accordance with measure. • Applicant shall provide for periodic inspection during construction to ensure that measures are in place.	• Applicant • Planning Division • Building Division		

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MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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9. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from existing residences. 10. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site. 11. The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance. 12. Notify all adjacent residences within a 500-foot radius of the site, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses. 13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.				
Tribal Cultural Resources				
TCUL-1: To protect buried tribal cultural resources that may be encountered during ground disturbing activities, the project shall implement Mitigation Measure CUL-1.	See CUL-1	See CUL-1		