RIVERVIEW APARTMENTS

INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION

PREPARED BY:

CITY OF PETALUMA
11 ENGLISH STREET
PETALUMA, CA 94952

February 2021

INITIAL STUDY - OVERVIEW AND BACKGROUND	
Project Title:	Riverview Apartments
Lead Agency:	City of Petaluma 11 English Street Petaluma, CA 94952
Contact person and phone number:	Olivia Ervin, Principal Environmental Planner oervin@cityofpetaluma.org (707) 778-4556
Project Location:	The project site is an approximate 14.4-acre property located at 2592 Casa Grande Road (APNs 005-060-041, -042, and -067)
Project Sponsor:	Richard Coombs, General Partner richacoombs@gmail.com (707) 837-7554
Property Owners:	Baywood LLC. 414 Aviation Blvd., Santa Rosa, CA 95403 (707) 578-5344
General Plan Land Use Designation:	High Density Residential (18.1 to 30 dwelling units/acre)
Zoning:	R5 (Residential 5) and FP-C (Flood Plain-Combining District)
Description of project:	The project proposes development on 14.4 acres to construct 264 apartment units within 27 three-story buildings. The project includes development of a recreation center, outdoor swimming pool, parking spaces, internal driveways, and multi-use paths. Primary access would be provided at the southern terminus of Casa Grande Road. A secondary emergency vehicle access (EVA) would be installed at the northeast corner of the project site and extend offsite to the terminus of technology way.[1]
Surrounding Land Uses and Setting:	Land uses adjacent to the project site include residential and commercial uses to the north; a business park and city park (Alman Marsh) to the east; open space and the Petaluma River to the south; and Rocky Memorial Dog Park/ Shollenberger Park to the west.
Other Public Agency Approvals:	U.S. Army Corp of Engineers, CA Department of Fish and Wildlife, US Fish and Wildlife Service, Regional Water Quality Control Board, Sonoma County Department of Health Services, and Sonoma Water.
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?	The project was referred to the Federated Indians of Graton Rancheria (FIGR) on September 20, 2018. Formal AB 52 notice was sent to FIGR on July 9, 2019. On July 23, 2019 the City of Petaluma received a response from FIGR requesting consultation. Formal consultation included subsequent correspondence, a meeting between the City and Tribal representative on October 1, 2019, and concurrence on tribal resources protection.

[1] Originally, in addition to the 14.4-acre project site, the applicant owned the adjacent 5.9 acres. However, in 2017 the applicant conveyed these 5.9 acres to the State Lands Commission (SLC), and the SLC accepted the conveyance. Accordingly, these lands will be preserved and protected in perpetuity for passive recreation and open space uses, including the protection of wetlands and habitat.

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ACRONMYMS AND ABBREVIATIONS

AFY	ACRE FEET A YEAR
AIR BASIN	SAN FRANCISCO BAY AREA AIR BASIN
APN	ASSESSOR PARCEL NUMBERS
AQP	AIR QUALITY PLAN
APN	ASSESSOR PARCEL NUMBER
ARB	CALIFORNIA AIR RESOURCES
BAAQMD	BAY AREA AIR QUALITY MANAGEMENT DISTRICT
BASMAA	BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION
BMP	BEST MANAGEMENT PRACTICE
CALEEMOD	CALIFORNIA EMISSIONS ESTIMATOR MODEL
CBC	CALIFORNIA BUILDING CODE
CCR	CALIFORNIA CODE OF REGULATIONS
CDFW	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
CEQA	CALIFORNIA ENVIRONMENTAL QUALITY ACT
CIP	CAPITAL IMPROVEMENT PROGRAM
CORP	ARMY CORPS OF ENGINEERS
CNEL	COMMUNITY NOISE EQUIVALENT LEVEL
CNPS	CALIFORNIA NATIVE PLAN SOCIETY
CRHR	CALIFORNIA REGISTER OF HISTORICAL RESOURCES
CTS	CALIFORNIA TIGER SALAMANDER
DBA	A-WEIGHTED DECIBEL
DBH	DIAMETER AT BREAST HEIGHT
DEIR	DRAFT ENVIRONMENTAL IMPACT REPORT
DPM	DIESEL PARTICULATE MATTER
DPR	DEPARTMENT OF PARKS AND RECREATION
DTSC	DEPARTMENT OF TOXIC SUBSTANCE CONTROL
EIR	ENVIRONMENTAL IMPACT REPORT
FEIR	FINAL ENVIRONMENTAL IMPACT REPORT
GHG	GREENHOUSE GAS
GPD	GALLONS PER DAY PER ACRE
HI	HAZARD INDEX

HRA	HEALTH RISK ASSESSMENT
HMBP	HAZARDOUS MATERIAL BUSINESS PLAN
IRWP	INCREMENTAL RECYCLED WATER PROGRAM
IS/MND	INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
ITP	INCIDENTAL TAKE PERMIT
LID	LOW IMPACT DEVELOPMENT
LUST	LEAKING UNDERGROUND STORAGE TANK
LWWTP	LAGUNA WASTEWATER TREATMENT PLANT
MGD	MILLION GALLONS PER DAY
MBTA	MIGRATORY BIRD TREATY ACT
MEI	MAXIMUM EXPOSED INDIVIDUAL
MM	MITIGATION MEASURE
MMRP	MITIGATION MONITORING AND REPORTING PROGRAM
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NAHC	NATIVE AMERICAN HERITAGE COMMISSION
NHPA	NATIONAL HISTORIC PRESERVATION ACT
NRHP	NATIONAL REGISTER OF HISTORIC PLACES
NWIC	NORTHWEST INFORMATION CENTER
OEHHA	CALIFORNIA OFFICE OF ENVIRONMENTAL HEALTH HAZARDS ASSESSMENT
PPV	PEAK PARTICLE VELOCITY
PRC	PUBLIC RESOURCES CODE
RCPA	REGIONAL CLIMATE PROTECTION AGENCY
ROG	REACTIVE ORGANIC GAS
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
SCH	STATE CLEARINGHOUSE
SR	STATE ROUTE
SRPCS	SANTA ROSA PLAIN CONSERVATION STRATEGY
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SWRCB	STATE WATER RESOURCES CONTROL BOARD
TAC	TOXIC AIR CONTAMINANTS
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
UST	UNDERGROUND STORAGE TANK
UWMP	URBAN WATER MANAGEMENT PLAN
µG/M3	MICROGRAMS PER CUBIC METER

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1. INTRODUCTION AND OVERVIEW

This Initial Study/Environmental Checklist for the proposed Riverview Apartments 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, trustee agencies, interested parties and the general public of the proposed project and its potential environmental effects. This Initial Study (and attached appendices) is also intended to provide the CEQA-required environmental documents for all city, regional, 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 prepared a Mitigated Negative Declaration.

City of Petaluma 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).

City of Petaluma General Plan EIR

Because CEQA discourages "repetitive discussions of the same issues" (CEQA Guidelines §15152(b)) and allows limiting discussion of a later project that is consistent with a prior plan to impacts which were not examined as significant effects in a prior EIR or to significant effects which could be reduced by revisions in the later project (CEQA Guidelines §15152(d)), no additional benefit to the environment or public purpose would be served by preparing an EIR merely to restate the analysis and the significant and unavoidable effects found to remain after adoption of all General Plan policies/mitigation measures. All applicable General Plan policies adopted as mitigation apply to the project analyzed herein.

The General Plan EIR reviewed potentially significant environmental effects resulting from plan implementation and developed measures and policies to mitigate impacts. Nonetheless, significant and unavoidable impacts were determined to occur under the General Plan. Therefore, the City adopted a statement of overriding considerations, which balance the merits of approving the plan despite the significant environmental effects. The effects 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 build-out, 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 build-out to population levels that could conflict with the Bay Area 2005 Ozone Strategy. (This regional air quality plan has since been replaced by the 2017 Clean Air Plan, which is further discussed in Sections 3.3 Air Quality and 3.7 Greenhouse Gases.)

- A possible cumulatively considerable incremental contribution greenhouse gas emissions from development under the General Plan.

This environmental document tiers off of the General Plan EIR (SCH NO. 2004082065), which was certified on April 7, 2008. 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/planning-documents/.

1.1 ENVIRONMENTAL SETTING

Regional Setting

Petaluma is located in southwestern Sonoma County along the US 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 southward to 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 without subsequent action. The General Plan and EIR evaluated potential impacts associated with existing and proposed development within the UGB. The project site is located within the UGB and is envisioned for residential development by the City's Housing Element. The project's location within the City of Petaluma and region is shown in **Figure 1: Regional Location**.

Neighborhood Setting

The project site is located at 2592 Casa Grande Road in eastern Petaluma and within the Petaluma General Plan's Lakeville Highway Planning Subarea. The Planning Subarea is characterized by urban development in proximity to Lakeville Highway, as well business and light industrial parks at the southern terminus of McDowell Boulevard South. This subarea contains the Petaluma Marina and the Sheraton hotel. A large portion of the subarea consists of marshlands, public trails, and open space along the Petaluma River.

The long-term vision for the subarea includes the creation of a cohesive neighborhood with close access to stores and services as well as connectivity to residential areas north of Lakeville Highway. Existing residential development is currently limited within the subarea, with the exception of a large multi-family residential development in close proximity to Shollenberger Park, located immediately north of the project site.

The City of Petaluma 2015-2023 Housing Element, prepared December 2014, identifies the project site as Site #13 on the City of Petaluma Residential Land Inventory Opportunity Sites. As described in the Housing Element, sites classified as high-density residential and that are vacant, such as the project site (Site #13), represent the greatest potential for the development of affordable housing to very low- and low-income households. The Housing Element identifies a development potential of 250 units at the project site (Site #13).

Project Site

The project site is located at the southern terminus of Casa Grande Road and consists of three parcels (APNs 005-060-041, -042, and 005-060-067). The proposed residential development would occupy the approximately 14.4-acre project site.

The project site is mostly undeveloped, though previously disturbed, and topography is generally flat and ranges in elevation from 8 to 20 feet above mean sea level (msl). The project site contains a concrete driveway leading to the project site from Casa Grande Road. A motor home is located on the northeastern portion of the project site. A portion of the project site contains gravel surfaces, a large mound of miscellaneous construction debris (which originated off-site) and a smaller pile of concrete and asphalt. A grove of eucalyptus trees occupies the western and the northwestern perimeter of the project site. The remainder of the project site contains ruderal/non-native annual grasslands and seasonal wetlands.

The project site was historically occupied by the Royal Tallow and Soap Company from 1942 to 2008. The northwestern portion of the project site was once a part of the former Casa Grande Landfill, which operated from 1940 to 1960. A portion of the project site has a history of contamination due to lead impacted soils and vegetation and requires remediation.

Surrounding Uses in the Vicinity

The approximately 5.9-acre southernmost portion of parcel 005-060-042, immediately south of the project site contains tidal marsh, emergent freshwater marsh, salt panne communities and has been dedicated to the State Lands Commission (SLC) and will be preserved in perpetuity.[2] No development, construction activities or other improvements will occur within this 5.9-acre offsite open space area. The existing public access trail, the Marsh Trail, bisects a portion of this open space area and provides public access between Alman Marsh Open Space and

[2] As noted above, in addition to the 14.4-acre project site, the applicant previously owned the adjacent 5.9 acres. However, in 2017 the applicant conveyed these 5.9 acres to the State Lands Commission (SLC), and the SLC accepted the conveyance; accordingly, these lands will be preserved and protected in perpetuity for passive recreation and open space uses, including the protection of wetlands and habitat.

Shollenberger Park trails. The project does not propose any changes involving the existing trails, which would remain open and accessible for public access.

Other land uses in the project site vicinity include residential and commercial uses to the north; a business park and city park (Alman Marsh) to the east; Petaluma River and industrial uses to the south; and Rocky Memorial Dog Park to the west. The project site is located in close proximity to Shollenberger Park, a 165-acre wetlands park with 16 acres of accessible trails. The park features a two-mile circular trail and a one-mile cutoff trail across an iron bridge spanning Adobe Creek, traversing through Alman Marsh, and terminating at the Petaluma Marina. A portion of the one-mile cutoff trail, known as the Alman Marsh Trail, is adjacent to the southern boundary of the project site. Alman Marsh, designated as a city park, encompasses approximately 80 acres of pasture/marsh that sits between Shollenberger Park on the south and the Petaluma Marina on the north. The city bought this land in the 1980s, breached the river levee in a couple of places to allow marshland to rebuild, and opened the land for public use as part of Shollenberger Park in 2000 – 2002.[3] Alman Marsh is now a mix of brackish tidal wetlands, fed daily by the river, and degraded pasture uplands containing seasonal freshwater wetlands (**Figure 2: Project Vicinity**).

General Plan and Zoning

The project site exhibits a General Plan land use designation of High Density Residential (18.1 to 30 dwelling units/acre) (**Figure 3: General Plan Land Use**). The project site is zoned as R5 (Residential 5), as shown in **Figure 4: Zoning**. As proposed, the Riverview Apartments Project is consistent with the General Plan land use designation and zoning provisions.

The southern portion of the project site is within the floodplain of the Petaluma River, and has the overlay land use designation of FP-C (Flood Plain-Combining District), as defined by Section 6.040 of the IZO. This portion of the project site is subject to the applicable policies and provisions of Chapter 6 of the IZO pertaining to floodplains. In particular, Sections 6.070.B and 6.070.D are applicable to the proposed project.

Existing Easements

The following easements currently exist on/adjacent to the project site (Civil Plan Set, Existing Conditions, Sheet C-2, December 18, 2019):

- Sanitary sewer easement, varying between 10 and 25 feet in width, located along the northern portion of the project site.
- 5-foot wide sanitary sewer easement located in the central portion of the site.
- PG&E 10-foot wide easement extending east towards the center portion of the project site from south of the Casa Grande access.
- 20-foot-wide ingress and egress easement for the benefit of the City of Petaluma, located within Casa Grande Road.
- Easement for 30 feet of right-of-way, located within the existing entrance to the project site off Casa Grande Road.
- 10-foot-wide underground gas pipeline easement.
- Emergency vehicle access easement located at the northeastern site boundary, recorded July 12, 2019.
- 8-foot wide public access easements.

[3] Petaluma Wetlands Alliance, Alman Marsh, https://petalumawetlands.org/wetlands/, Accessed October 4, 2018.

1.2 PROJECT DESCRIPTION

The project proposes to construct and operate a 264 residential unit apartment development containing 27 three-story buildings, a recreation center, outdoor swimming pool, parking areas, outdoor use areas including pathways and multi-use paths, internal driveways, landscaping, and appurtenant improvements on approximately 14.4 acres of the project site. The project's site plan is shown in **Figure 5: Site Plan**.

The following actions are required of the City of Petaluma to authorize this proposal: (1) Site Plan and Architectural Review (SPAR) approval for the site, building and landscaping design details; (2) Development Permit for development within the FP-C (Floodplain-Combining District); and (3) removal of trees; including two windrows of eucalyptus trees along the western and north site boundary and one Coast Live Oak, which is the only tree protected under Petaluma's Implementing Zoning Ordinance Chapter 17 (Tree Preservation) proposed for removal. Discretionary state regulatory agency approvals are required by the California Department of Fish and Wildlife (CDFW) for a Lake and Streambed Alteration Agreement pursuant to Section 1603 of the Fish and Game Code and by the Regional Water Quality Control Board for a Water Quality Certification pursuant to Section 401 of the Clean Water Act.

Site Remediation Pre-Construction

As mentioned above, due to historic uses there are portions of the project site that contain a former leaking underground storage tank (LUST) as well as lead impacted soils which will require remediation prior to project development. The LUST cleanup activity is a separate and distinct action for which the City issued a building permit in 2018, Permit # BLDG-18-1305. The subject project includes soil remediation to be implemented through a Clean Closure Plan, involving the excavation of approximately 6,000 cubic yards of contaminated soils, which will be profiled to determine the appropriate treatment and waste disposal facility. The excavated area will be backfilled with clean fill and compacted. The cleanup and related Clean Closure Plan includes remediation of 0.13 acres of lead impacted wetlands in the western portion of the project site. Wetland remediation includes excavation of lead impacted soils during the dry season and wetland restoration including appropriate replacement soils and wetland vegetation.

The windrow of mature eucalyptus trees (~50 trees including clusters) along the site's western boundary overlap with lead impacted soils and will be removed as part of the remediation process. A supplemental planting plan identifies replacement planting exceeding a 1:1 ratio with native species including 14 box elders, 40 California lilacs, 28 blue elderberry, 9 coast live oaks, and 32 black oaks. All materials including soils, water and vegetation excavated during the cleanup process will be treated to deactivate lead and re-used onsite through mixing with non-impacted soils for fill or off hauled and disposed of at an appropriate facility authorized to accept contaminated materials in accordance with all applicable laws and regulations. In accordance with the Clean Closure Plan, average lead concentration in soils in the impacted areas must achieve a residential environmental screening level (ESL) of 80 mg/kg following remediation activities. The Bay Area Regional Water Quality Control Board (RWQCB) is the regulating agency overseeing cleanup activities onsite and once remediation is satisfactorily completed will issue an acceptance letter on the Clean Closure Plan.

Riverview Apartment Buildings

The project includes the construction of 264 units contained within 27 three-story apartment buildings, comprised of eight 7-unit buildings, ten 10-unit buildings, and nine 12-unit buildings. The project would include unit floor areas for the dwellings ranging from 910 to 1,304 square feet, with 45 one-bedroom/one-bathroom units, 188 two bedroom/two-bathroom units, and 31 three-bedroom/two-bathroom units, and a total of 46 fully accessible units with attached garages. The Site Plan proposed design includes 3 apartment building plans, each with two elevation types, and a variety of unit plans in each building. These details would be finalized as part of the final project design.

Building materials are combinations of corrugated metal, stucco siding, board and batten siding, horizontal smooth lap siding, and vinyl frame windows. The architectural style is reflective of a contemporary design with elements of Italianate and Farmhouse. Proposed materials are of neutral colors (black, grey, and white) as well as muted earth tones (green and blue). Buildings facades include articulated balconies, porches, and recessed stairways. Building's roof types are generally flat, to accommodate rooftop solar arrays and mechanical equipment, with decorative gable elements, parapets, and cornices. The maximum height of the buildings at the peak of the gable will be 40'8".

Recreation Center for Residents

The project includes the construction of a 3,762-square-foot one-story community recreation center and pool facility. The recreation center would house a number of communal spaces such as a fitness center, community center, lounge, and community kitchen. The administrative and leasing offices would also be located within this building. Building materials include corrugated metal, composite rooftop, stucco siding, board and batten siding, vinyl frame windows, and stone veneer. Proposed materials are of neutral colors (black, grey, and white) as well as muted earth tones (green and blue). The maximum height of the recreation center will be 26'11".

Fencing and Retaining Walls

As proposed, the project entry way from Casa Grande would be gate controlled, which would remain open during the day and closed during evening hours for security purposes. Fencing would be installed along the perimeter of the project site (where none is existing) and enclosing the swimming pool. The fencing at the swimming pool would have a maximum height of 6 feet with narrow slats. Fencing introduced onsite would be a traditional straight picket of gray aluminum or steel. Perimeter fencing would have a height of approximately 4 feet.

As proposed, retaining walls would be installed along the site's southern and eastern boundaries. A retaining wall, ranging from three to five feet in height for a length of approximately 466 feet would be installed at the southernmost limits of the project site. The eastern retaining wall would be two to two and a half feet in height and would extend a length of approximately 500 feet. The exposed faces of the retaining walls would be clad in stucco to match the façade and color palette of the apartment buildings.

Landscaping and Amenities

The Landscape Master Plan for the project includes trees, shrubs, climbing vines, groundcover, and grasses. Trees and other landscaping will be planted along the perimeter of the project site, adjacent to proposed buildings, and within parking areas and outdoor areas. A majority of the proposed planting species, 94%, are low to moderate water users, with 6% of the proposed landscaping high water users. The landscaping plan complies with the City's water efficient landscape ordinance (WELO).

Outdoor use areas would be established throughout the project site and include children play areas, adult activity areas, passive sitting areas, and BBQ areas.

Site Access and Circulation

The project site is currently accessed from a gravel driveway off Casa Grande Road. Primary access would continue to be provided at the southern terminus of Casa Grande Road. Casa Grande would be improved along the site frontage to the centerline including sidewalk, curb, and gutter. The entry access road will have a 24-foot width with sidewalks on both sides. A controlled entry gate is proposed on the internal access road, approximately 120 feet from Casa Grande. Internal circulation to the apartment buildings would be provided along private drives. Parking would be provided on-site within internal parking lots, throughout the project site on both sides of private streets, and within private attached and detached garages. A total of 514 parking spaces are proposed including 283 garage parking spaces and 231 uncovered spaces. Three parking spaces would be accessible per applicable ADA Standards with van accessibility and four parking spaces would contain electric vehicle (EV) charging stations with van accessibility. A total of 27 uncovered parking spaces will be EV equipped, including the 4 ADA van accessible spaces. All private garages (242) include plumbing for future installation of electric vehicle charging equipment.

The project includes, as project design features, the following pedestrian and bicycle facilities:

- Extension of the public sidewalk and planter strip on Casa Grande Road along the frontage of the project site and extending towards the entrance of the Rocky Hill Dog Park.

- Bicycle racks will be installed at each of the building's covered stairwell areas, at the play areas in each park area, and at the recreation center. The bicycle racks on the project site will be able to accommodate approximately 106 bicycles in addition to utilizing private garages for bicycle storage and parking.

- A 12-foot wide Class I multi-use public path for pedestrian and bicycle use would extend from the sidewalk at Casa Grande Road along the northern boundary of the project site to the northeastern corner of the project site and connect to an eight-foot wide recreational trail that would extend the length of the eastern site boundary and connect with the existing Alman Marsh Trail in the southeastern portion of the site. Wayfinding signage would be installed at the trail entry at the terminus of Technology Way.

- Pedestrian walkways are located throughout the development and provide connectivity between sidewalks along internal roads and outdoor use areas including children play areas, adult activity areas, passive sitting areas, and BBQ areas.

Emergency vehicle access (EVA) is proposed through the access roadway off of Casa Grande and internal roadways, as well as an EVA only secondary access point at the northeast corner of the project site. The secondary access point would be gate controlled for access by emergency personnel only.

Site Preparation and Construction

Development of the proposed project is presumed to occur over an approximately 18-month construction period and will initiate with site preparation and grading. Site preparation will involve grubbing to remove grasses, vegetation, and trees (windrows of eucalyptus along the site's western and northern boundaries, consisting of approximately 94 eucalyptus trees including clusters, two black walnuts and two Monterey pines, one poplar, blue gum, and willow, and one cost live oak tree). Site preparation also includes removal of existing gravel surfaces and mounds onsite containing construction debris, concrete, and asphalt. Grading activities will result in the cut of approximately 17,000 cubic yards of soil and the fill of approximately 42,000 cubic yards of soil, resulting in the import of approximately 25,000 cubic yards of soil. The existing aggregate base stockpile of 6,300 cubic yards will be reused onsite during project construction. Grading will achieve level topography to support building foundations and infrastructure.

Following completion of grading activities, infrastructure improvements and building foundations will be constructed. Utilities, storm drains and catch basins will be installed. As all public utilities currently extend to the project site, improvements will be limited to the installation of new laterals and tie-ins to connect to the existing water, sewer, power, and gas services in place within Casa Grande Road. Frontage improvements along Casa Grande Road will be installed, including a new sidewalk, landscaping, and signage.

Construction equipment expected to be utilized includes tractors, backhoes, haul trucks, graders, pavers, cranes, 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 or Casa Grande Road (through the issuance of an encroachment permit).

Utilities

The project would utilize public water and sewer from existing mains in Casa Grande Road. Potable water would be accommodated via the installation of new water lines within the project site that would connect to the existing water main in Casa Grande Road. Wastewater would be conveyed from the project site through new sanitary sewer pipes, to the existing sanitary sewer main within Casa Grande Road, and ultimately to the Ellis Creek water recycling facility.

Stormwater runoff generated from the new buildings and other impervious surfaces would be collected and routed to bio-retention areas throughout the site, allowing for treatment and infiltration. Stormwater would then be routed to new storm drains within the project site and conveyed to and discharged to the outfalls along the western and eastern limits of the site.

Offsite Improvements

Offsite improvements relate to primary access and emergency vehicles access as described above. The Project would install frontage and offsite improvements along Casa Grande Road to extend the project site entry and construct a public sidewalk along Casa Grande Road at the frontage of the project site and extending towards the entrance of the Rocky Hill Memorial Dog Park. The existing open drainage ditch north of the access road will be piped to accommodate frontage improvements. Piped runoff will continue to be conveyed in the same manner as

the existing flows and will be pretreated through onsite bioretention features prior to discharge and sheet flow towards the southwestern portion of the project site. Casa Grande road will be improved to the centerline including curb, gutter, and sidewalk. The existing open bottom double culvert south of the access drive will be retained. The existing guardrail at the double culvert headwall will be replaced with the same steel picket perimeter fence proposed to be installed at the site perimeter.

As described above, a secondary emergency vehicle access (EVA) driveway would be installed at the northeast corner of the project site, extending offsite through an existing parking lot, and connecting to the cul-de-sac at the terminus of Technology Lane. The off-site existing parking lot will be resealed to remove the striping for the four existing parking spaces that will be replaced to accommodate the EVA drive aisle. The EVA offsite improvements include, removal of 4 existing parking stalls, relocation of a light pole, and installation of concrete curb and parking median within the existing parking area at the terminus of Technology Lane.

As further described below, offsite improvements also include the creation of wetlands, which will serve as mitigation to offset fill to wetlands onsite to accommodate the proposed project. As proposed, the offsite created wetlands would occur on a portion of the existing Golf Course approximately 1.8 miles north of the project site (see further detail below).

Wetland Preservation/Creation

The project site contains several wetland features, primary along the site margins that extend towards the inner portions of the site. To accommodate the proposed development, the Project would fill 1.52 acres of regulatory wetlands. A portion of the wetlands along the south western property line are lead impacted and will be remediated and preserved under the proposed project. The Site Plan, as proposed, would preserve 0.63 acres of regulated wetlands on-site, including remediation of lead impacted wetlands (**Figure 6: Wetland Preservation**).

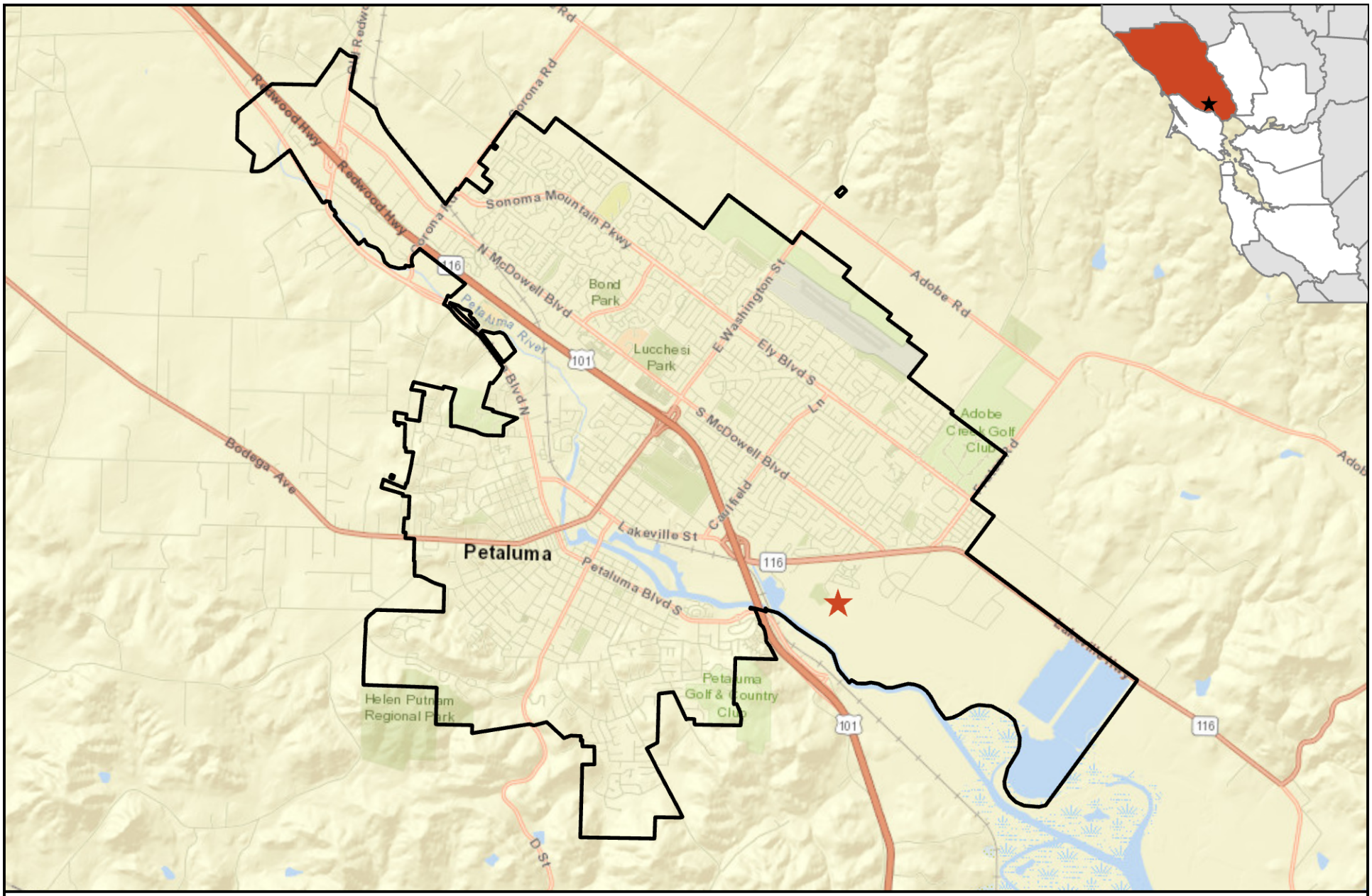
To offset fill to wetlands that would occur as part of the project, the applicant is proposing to create an offsite wetland at the former Adobe Creek Golf Course (operations ceased in 2017) at a 2:1 ratio pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The Adobe Creek Mitigation Site is located appropriate 1.8 miles northeast of the project site on an 11.5-acre property previously in use for recreation activities as part of the former Adobe Creek Golf Course. The proposed offsite wetland creation (**Figure 7: Offsite Wetland Creation Concept Plan**) would convert approximately 3.64 acres of ruderal upland, non-native grasses adjacent to Adobe Creek. Grading to create offsite wetlands will occur during a single phase in the dry season (summer months) and followed by planting of native wetland starts or seeds in the fall, prior to the rainy season. Grading and wetland creation proposes the development of seven (7) depressions on native Clear Lake clay soils and an 85-foot linear swale. All equipment and construction vehicles will be staged within the Mitigation Area during construction and away from Adobe Creek. Construction fencing will be installed to protect Adobe Creek and its riparian corridor from inadvertent entry or disturbance. Created wetland will be monitored for performance criteria for a period of 5 years in accordance with resource agency permitting requirements and other applicable laws and regulations.

Approvals From Other Regulatory Agencies

The proposed Riverview Apartments project requires approval from the following non-City regulatory agencies:

- Regional Water Quality Control Board (RWQCB), Individual NPDES Permit
- Regional Water Quality Control Board, 401 Water Quality Certification
- Regional Water Quality Control Board, acceptance of Clean Closure Plan
- California Department of Fish and Wildlife, Section 1600, Streambed Alteration Agreement
- Sonoma Water (formerly Sonoma County Water Agency), Stormwater Control Plan
- County of Sonoma Environmental Health and Safety, LUST Closure
- U.S. Army Corps of Engineers, Section 404 Permit (subject to the National Environmental Policy Act)

Figure 1



Riverview Apartments: Regional Location

City of Petaluma

Sonoma County

Project Site

0 0.25 0.5 1 Miles

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

Figure 2

Riverview Apartments: Project Vicinity

N

0 0.05 0.1 0.2 Miles

City of Petaluma

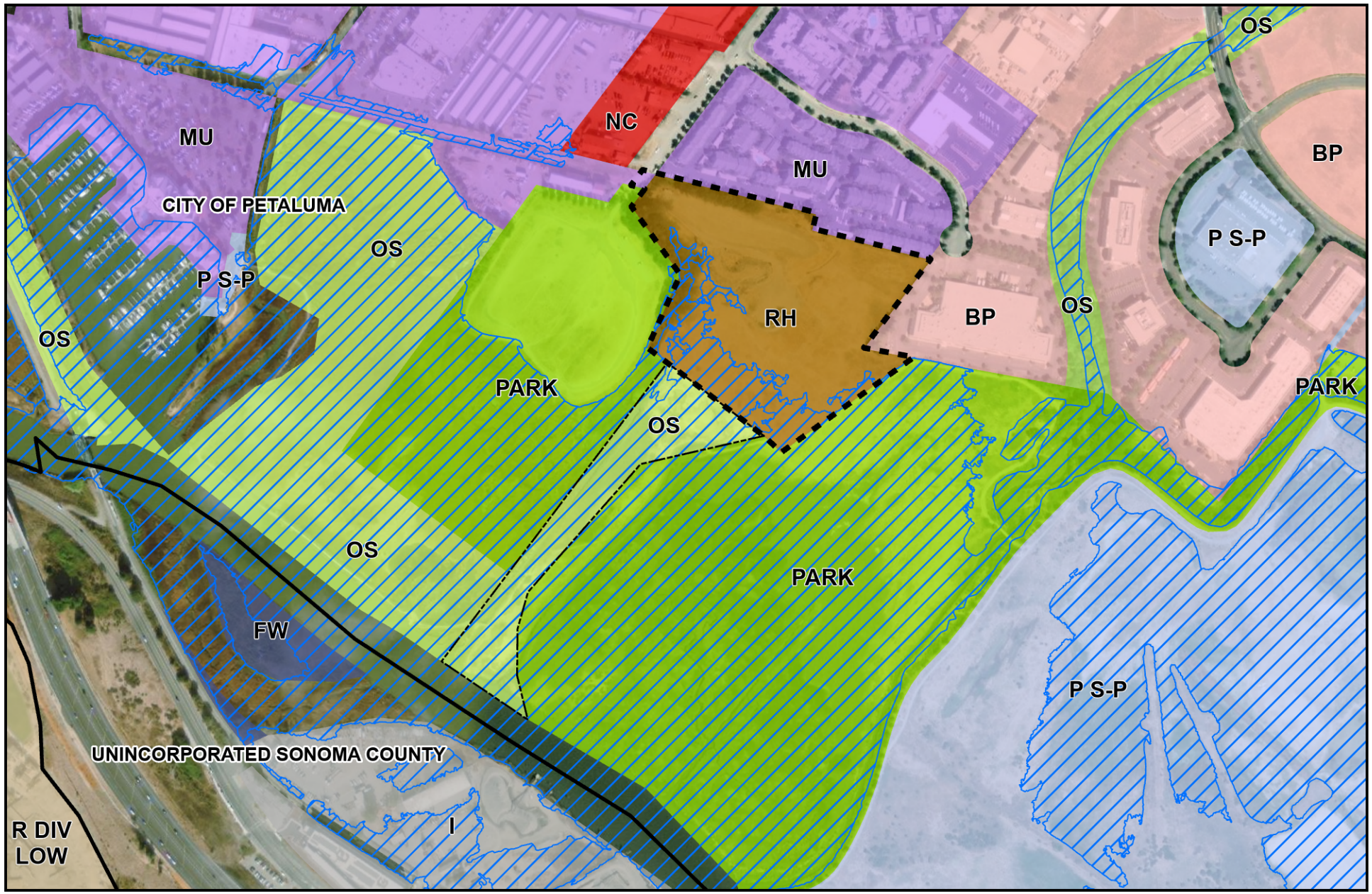
Project Site

Dedicated to SLC

Recreation Trail

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

Figure 3



Riverview Apartments: General Plan Land Use

City of Petaluma
Project Site
Dedicated to SLC

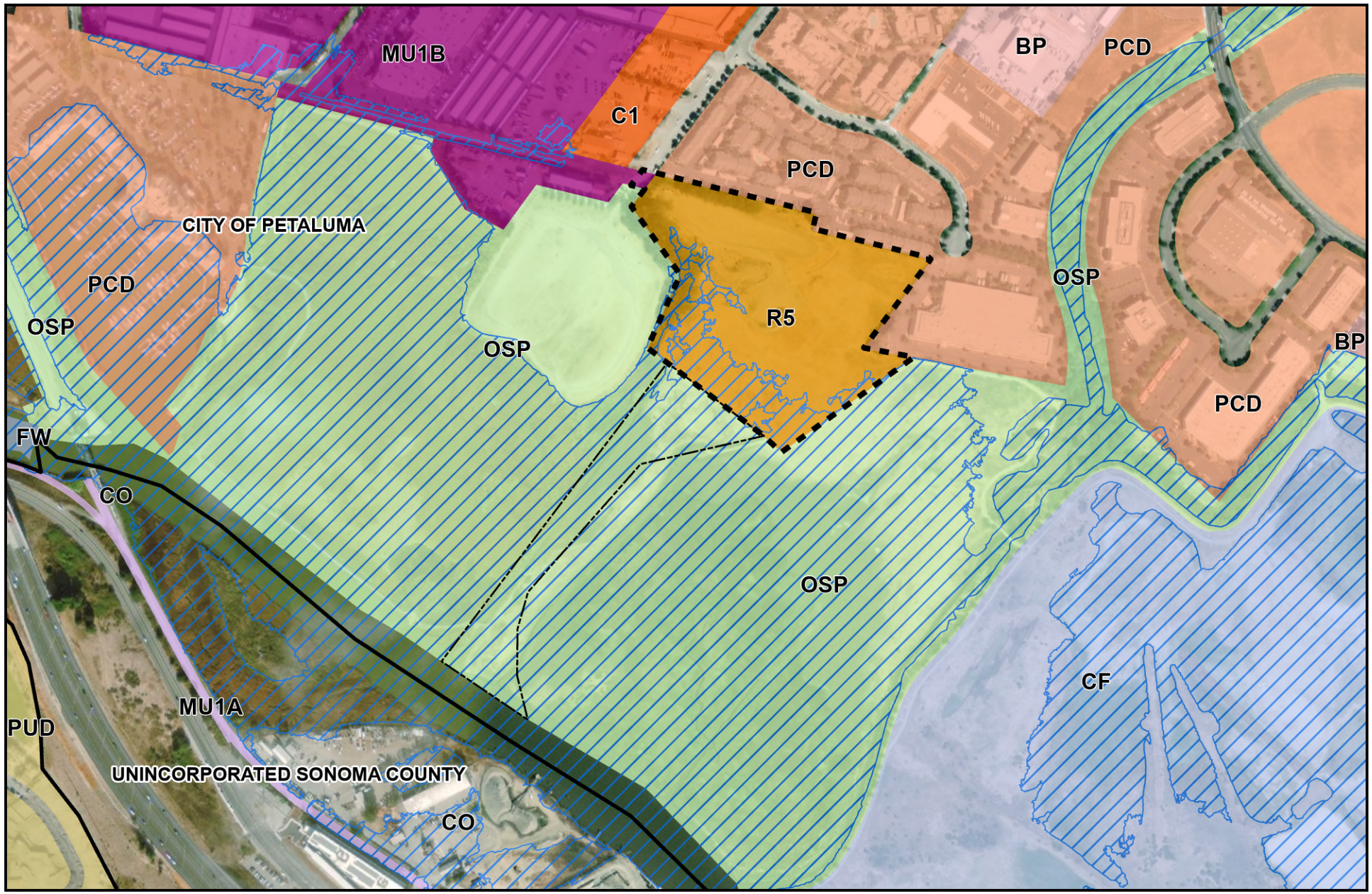
0 0.03 0.05 0.1 Miles

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

Diverse Low Density Residential (6.1-12.0 hu/ac)
High Density Residential (18.1-30.0 hu/ac)
Neighborhood Commercial
Mixed Use
Business Park

Public/Semi-Public
Industrial
City Park
Open Space
Floodway
100-Year Floodplain

Figure 4



Riverview Apartments: Zoning

0 0.03 0.05 0.1 Miles

Data source: City of Petaluma; ESRI Basemap

City of Petaluma
Project Site
Dedicated to SLC
BP (Business Park)
C1 (Commercial 1)
CF (Civic Facility)
FP-C (100-year flood plain)
FW (Floodway)
MU1A (Mixed Use 1A)
MU1B (Mixed Use 1B)
OSP (Open Space-Park)
PCD (Planned Community Development)
PUD (Planned Unit District)
R5 (Residential 5)

Figure 5

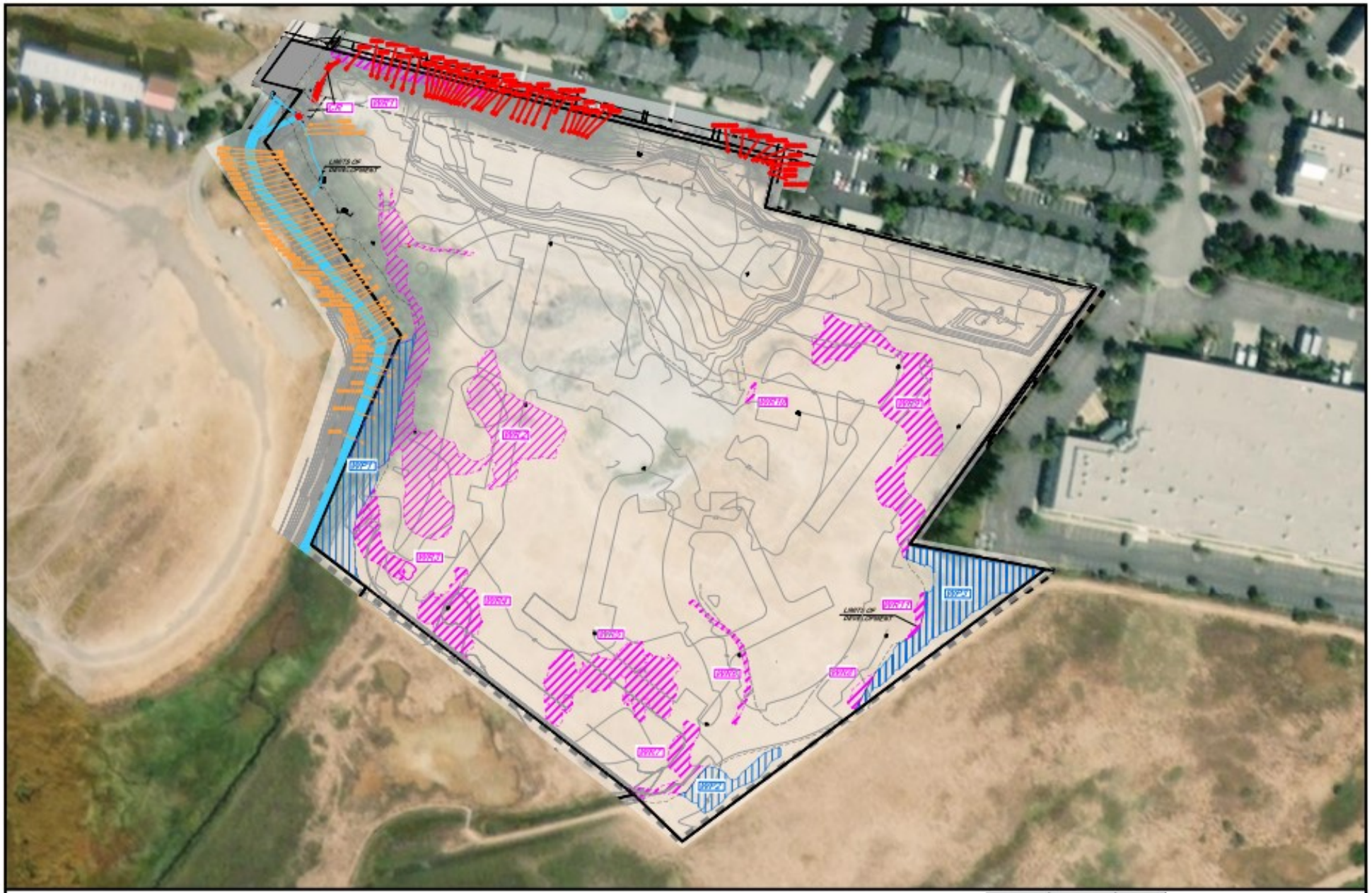
Riverview Apartments: Site Plan

Project Site

0 50 100 200 Feet

Data source: Preliminary Site Plan, Sheet C4 from 2020.07.01, Steven Lafranchi & Associates; ESRI Basemap

Figure 6



Riverview Apartments: Wetland Preservation Plan

0 50 100 200 Feet

Project Site

Impacted wetland areas to be removed as part of development

Wetland areas to be preserved post site development

AREA I.D.	Gross Area (ft²)	Gross Area (acre)
WR1	1,137	0.03
WR2	25,472	0.58
WR3	1,275	0.03
WR4	5,375	0.12
WR5	10,238	0.24
WR6	913	0.02
WR7	2,881	0.07
WR8	360	0.01
WR9	13,537	0.31
WR10	366	0.01
WR11	447	0.01
TOTAL WETLAND AREAS REMOVED	66,002	1.52

AREA I.D.	Gross Area (ft²)	Gross Area (acre)
WP1	11,758	0.27
WP2	3,445	0.08
WP3	12,366	0.28
TOTAL WETLAND AREAS PRESERVED	27,568	0.63

Data source: Wetland Preservation Plan, Sheet C3 from 2020.07.01, Steven Lafranchi & Associates; ESRI Basemap

Figure 7

Riverview Apartments: Offsite Wetland Mitigation

0 105 210 420 Feet

Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap; Steven J. Lafranchi & Associates EX-1 dated 2/10/2021

PROPOSED WETLAND BASIN AREA (3.64 Acres)

LOCATION OF TWO (E) OAK TREES TO BE PRESERVED

OVERALL WETLAND PARCEL LIMITS

[PAGE INTENTIONALLY LEFT BLANK]

2. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

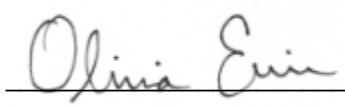
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

3. 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. 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.	☒
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.	☐



February 17, 2021

Lead Agency: Olivia Ervin, Principal Environmental Planner **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

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) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) 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); Becky Duckles, Arborist Report, Revised September 10, 2020; Supplemental Planting Plan, prepared by Steve J. Lafranchi & Associates, Inc., received September 4, 2020; and Site Plans, Architectural Plans, and Landscape Plans, 2020.

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 also traversed by the Petaluma River and tributaries, which contribute to the aesthetic quality of the City. A long-established urban form within the City limits contrasts with the surrounding natural and agricultural features.

The site is located in the City's Urban Growth Boundary (UGB) and within the Lakeville Highway planning subarea. The Lakeville Highway subarea is classified by marshlands, public trails, and open spaces along the Petaluma River. Businesses and light industrial uses are located at the south terminus of South McDowell Boulevard. Lakeville Highway is considered a gateway to the community both from Highway 101, its approach from county areas on the southeast edge of town, and from the east and south via Highways 116 and 37. The Petaluma River, which lies south of the project site, is an important visual resource.

The project site is located immediately south of an established urban area contained 3-story residential apartments and north of the open space marshland proximate to the Petaluma River, which contains public trails. To the east is an established commercial building and to the west is the Rocky Memorial Dog Park. The project site is currently a vacant lot that is highly disturbed consisting of ruderal grasses, uneven fill, and a concrete pad. The project site has been previously disturbed by former operations on the site and contains an unimproved driveway and drive aisle, stockpiles, ruderal vegetation, wetlands, and eucalyptus trees along the site's western and northern boundary. A motor home is located on the northeastern corner of the property. A portion of the project site contains gravel surfaces, a stockpile of construction debris (which originated off-site), and a stockpile of concrete and asphalt. Eucalyptus Trees line the western and northern perimeter of the project site, and the remainder of the property contains ruderal/non-native annual grasslands, and seasonal wetlands. An emergent marsh freshwater marsh is

located in the southwestern corner of the site.

As part of the lead remediation effort the windrow of Eucalyptus trees along the western property line will be removed and replaced with native tree species including approximately 14 box elder, 40 California lilac, 28 blue elderberry, 9 coast live oaks, and 32 black oaks. To accommodate the proposed project, Blue Gum (*Eucalyptus globulus*), Monterey Pine (*Pinus radiata*), Lombardy Poplar (*Populus nigra*), Willow (*Salix sp*.), and Coast Live Oak (*Quercus agrifolia*) will be removed along the north and west property lines, as identified in the Arborist Report (**Appendix A**). Other than a single Coast Live Oak none of the trees proposed for removal to accommodate the proposed development are considered 'protected trees' under Petaluma's Implementing Zoning Ordinance Chapter 17 (Tree Preservation).

Aesthetic Impact Discussion

4.1 (a,c) (Scenic Vista, Visual Character and Quality) Less Than Significant Impact with Mitigation: Impact 3.11-3 of the General Plan EIR concludes that new development (such as the project) may potentially degrade the existing visual quality of the city through incompatibilities with existing development in scale and/or character. The General Plan EIR elaborates on this potential environmental effect, as follows:

> "The aesthetic resources of the city - the creeks, river, hillsides, and ridgelines - could potentially be impacted by new development unless it is thoughtfully designed. Preservation of significant natural features during construction of new development would help retain the character of existing areas. New development proposed on vacant sites within the city's UGB could also alter the surrounding rural visual character through increased densities and intensities."

Figure 3.11-1 of the General Plan 2025 EIR identifies the following scenic vistas: (a) hills to the west and south of the City; (b) vistas of Sonoma Mountain; and (c) land along the Petaluma River. 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.

A Viewshed Analysis was prepared for the proposed project (Sheets 28 – 31 of Architectural Plans). The proposed development would be located adjacent to, and visible from, the Rocky Memorial Dog Park public viewpoint. The proposed apartments would also be visible from the following public viewpoints: Alman Marsh Trail; community park at Quarry Heights subdivision; intersection of Kastania Road and Petaluma Boulevard South; and Casa Grande Road.

Under current conditions, existing public views of the project site and surrounding areas include grassland, trees, and Sonoma Mountain to the north. The proposed project would change the existing character of the site from being primarily undeveloped with grassland and clusters of trees, to being developed with 27 three-story buildings, asphalt surfaces, fencing, retaining walls, and associated improvements. Although the project would be developed at a similar scale (height and density) as the existing residential development to the north, the existing visual character of the site and public views of the site and surrounding hillsides will be changed from the existing condition.

The proposed apartment buildings would obstruct views of open space and marshlands looking east from the Rocky Memorial Dog Park viewpoint (**Figures 8 and 9**). The project proposes on-site landscaping, including trees, shrubs, climbing vines, and grasses, which would minimize the visual impacts of the proposed buildings. However, views of the project site from Rocky Memorial Dog Park and other public vantage points would be altered.

Figure 8: Existing View from Rocky Memorial Dog Park

Figure 9: Constructed View from Rocky Memorial Dog Park

The existing windrow of eucalyptus trees provides a visual buffer of the project site as viewed from the Rocky Memorial Dog Park. As part of the site remediation effort, this row of eucalyptus trees will be removed, which will increase the site's visibility as viewed from the adjacent Dog Park. Although eucalyptus trees are non-native, and do not qualify as protected under the city's tree preservation ordinance, this row of eucalyptus trees serves as a natural vegetative barrier and effectively screens views of the project site from the Dog Park.

The project includes a supplemental planting plan to replace eucalyptus trees to be removed with a variety of native tree species. The Supplemental Planting Plan proposes 15-gallon size replacement tree with 5 different native species. As replacement trees mature, a similar vegetative barrier as provided by the existing eucalyptus trees will be re-established.

The General Plan anticipates medium density residential development on the project site and the General Plan EIR identifies less than significant aesthetic impacts from buildout of the General Plan. The proposed project, while consistent with the General Plan land use designation and zoning district, will introduce 27 new 3-story buildings within an aesthetically rich area of the city, adjacent to the Petaluma marshlands, visible from multiple view points and readily visible from the adjacent Rocky Memorial Dog Park and the Marsh Trail. As such, the project has the potential to result in impacts to scenic vistas and alter the visual quality and character in the site vicinity, which is characterized by expansive open space and marshlands along the Petaluma River.

The new 3 story buildings and associated improvements will alter views of the site relative to the existing conditions. To soften views of the project site from Rocky Memorial Dog Park a supplemental planting plan is proposed along the site's western boundary, which will reintroduce a vegetative barrier following removal of the eucalyptus trees. Additionally, the overall landscaping plan provides for the planting of trees and vegetation throughout the project site. Furthermore, the project is subject to the City's Site Plan and Architectural Review process, which ensures that new development achieve a satisfactory quality of design and harmony of the development with its surroundings.

In order to accommodate the elevation difference between the proposed building pads and the surrounding open space, retaining walls will be installed. A retaining wall ranging from three to five feet in height for a length of approximately 466 feet would be installed at the southernmost limits of the project site. The eastern retaining wall would be two to two and a half feet in height and would extend a length of approximately 500 feet. The retaining walls will be visible from the adjacent Marsh Trail and have the potential to contrast with the surrounding open space lands. To ensure that retaining walls do not degrade the scenic quality **Mitigation Measure AES-1** shall be implemented and requires that the design of the retaining walls blend in with the surrounding marsh landscape including naturalized texture and color. With implementation of AES-1 potential impacts due to degradation of the existing visual quality of the site, will be reduced to less than significant levels.

4.1 (b) (Scenic Resources) No Impact: According to the California Scenic Highway Program, US 101 (located ~1/2 mile south of the project site) and State Route 116/Lakeville Highway (located ~0.16 miles north of the project site), are not designated scenic highways within the City of Petaluma, nor are they considered eligible to be officially designated. 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, the project will have no impacts to scenic resources within a state scenic highway.

4.1 (d) (Light and Glare) Less Than Significant Impact: The project site is bounded by residential, commercial, and business park uses to the north and east, all of which currently feature site and street lighting. Other existing sources of light and glare in the vicinity of the subject property include street lighting and vehicles traveling along roadways. Exterior lights installed in conjunction with the proposed project will marginally increase artificial light in the vicinity. The project is required to comply with Implementing Zoning Ordinance (IZO) §21.040(D)(Glare), which provides standards to prevent indirect and direct glare impacts including, maximum illumination, light location, height, and relationship to structures. A submitted photometric plan depicting proposed illumination levels demonstrates conformance with the standards of IZO §21.040(D). Mandatory compliance with IZO §21.040(D) ensures that the project's potential light and glare impacts would be less than significant.

Mitigation Measures:

AES-1: The retaining wall along the southern boundary of the project site shall be designed to be compatible with the surrounding marsh landscape, and shall incorporate elements into the design of the retaining wall to soften the scale and visual prominence such as: tiering with supporting landscaping in each tier; landscaping to be planted immediately adjacent to the wall, such as vines and trailing plants; using finishes on the wall that naturalize the façade through sculpting and staining to resemble natural materials; and using a color for the retaining wall to mimic the surrounding landscape of Alman Marsh.

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: City of Petaluma 2025 General Plan and EIR; and California Department of Conservation, Farmland Mapping and Monitoring Program 2016.

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. Based on data from the FMMP, land classifications

within the City consist of Prime Farmland, Grazing Land, Farmland of Local Importance, Other Land, and Urban and Built-up Land. There are no identified forestlands within the UGB. Agricultural resources are prevalent outside of City limits, within the County of Sonoma. An impetus to the establishment of the UGB was to preserve natural resources, agricultural lands, and other open spaces.

Agricultural and Forestry Impact Discussion

4.2 (a-b) (Farmland Conversion and Agricultural Use) Less than Significant Impact: The project site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The subject property is not zoned for agricultural uses and the project will not interfere with a Williamson Act contract.

The property contains approximately 10.2 acres of Farmland of Local Importance and 4.3 acres of Urban and Built-up Land (**Figure B-1** in **Appendix B**). Farmland of Local Importance is classified as land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. Farmland of Local Importance is either currently producing or has the capability of production, but does not meet the criteria of Prime, Statewide or Unique Farmland. As stated in the General Plan EIR, the majority of land within the UGB classified as Farmland of Local Importance is vacant, with a small portion being used for active cultivation. The subject property is not currently under active cultivation and has been historically used by the Royal Tallow and Soap Company and as part of the former Casa Grande Landfill. The project site is zoned R5 (Residential 5). The property is not under a Williamson Act contract, nor are there any Williamson Act contracts in the immediate vicinity.

The proposed project would convert approximately 10.2 acres of Farmland of Local Importance to non-agricultural uses (residential) consistent with the City General Plan and zoning. Under the General Plan, land located throughout the UGB designated as Farmland of Local Importance was anticipated to be converted to non-agricultural uses. The General Plan EIR concluded that the conversion of farmland that would occur under the General Plan, would not constitute a significant loss of farmland because: 1) the proposed General Plan would not involve the conversion of any Prime Farmland to non-agricultural uses; and 2) the General Plan contains policies that ensure the maintenance and preservation of farmland outside of the UGB. As such, the conversion of approximately 10.2 acres of Farmland of Local Importance within the UGB to non-agricultural uses is considered a less than significant impact.

4.2 (c-d) (Forestland and Timberland) No Impact: The subject property does not contain any forestland or timberland within its boundaries, nor is the project site zoned for such uses. Therefore, the project will have no impact on forestry resources.

4.2 (e) (Other Conversions of Farmland or Forestland) Less Than Significant Impact: The subject property is located within the UGB and surrounded by land designated as Mixed Use, Business Park, Neighborhood Commercial, City Park, and Open Space on the General Plan Land Use map. None of the lands surrounding the project site are under a Williamson Act contract. According to the California Department of Conservation FMMP, land adjacent to, and south of and west of the subject property are designated as Farmland of Local Importance. In addition, other land designated as Farmland of Local Importance is located approximately 0.25 mile east of the project site. As such, the conversion of 10 acres of Farmland of Local Importance to non-agricultural uses could provide an impetus for the conversion of similar farmland in the vicinity of the subject property to non-agricultural uses.

While adjacent land designated as Farmland of Local Importance could also be converted to non-agricultural uses, any future projects would require review under CEQA including an evaluation of potential agricultural impacts and mitigation to offset impacts, as warranted. Therefore, impacts from conversion of other farmlands as result of the proposed project are considered less than significant.

In the absence of forested lands within the subject property, and the absence of forested lands within the UGB, the proposed project would not encourage the loss or conversion of forested land to other uses. Therefore, the project will have no impacts associated with the conversion of forestlands.

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) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☒	☐	☐

Sources: City of Petaluma General Plan 2025 and EIR; Bay Area Air Quality Management District Bay Area 2017 Clean Air Plan; Bay Area Air Quality Management District, CEQA Guidelines, May 2017; Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019; and AEI Consultants, Phase I Environmental Site Assessment, December 4, 2018.

Air Quality Setting

The City of Petaluma is located within the San Francisco Bay Area Air Basin, which is regulated by the Bay Area Air Quality Management District (BAAQMD). Air quality within the Bay Area Air Basin is affected 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 establish national and state ambient air quality standards. 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 PM10 and PM2.5 state standards, which require an annual arithmetic mean (AAM) of less than 20 µg/m3 for PM10 and less than 12 µg/m3 for PM2.5. In addition, the Basin is designated as non-attainment for the national 24-hour fine particulate matter (PM2.5) standard and will be required to prepare a State Implementation Plan (SIP) for PM2.5. All other national ambient air quality standards within the Bay Area Air Basin are in attainment.

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 Guidelines established in May 2010[4] and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it is expected that updated thresholds and guidelines may be developed in the near term. In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of Petaluma recognizes that these thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.[5]

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

[5] 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 accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior

BAAQMD air quality thresholds are presented in **TABLE 1** below.

TABLE 1: AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average 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: BAAQMD's May 2017 CEQA Air Quality Guidelines; BMP = Best Management Practices

Note: 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 GHG = greenhouse gas.

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, 4-P-15D to reduce emissions from residential uses, and 4-P-16 to reduce

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.

emissions during construction.

Illingworth & Rodkin prepared an Air Quality and Greenhouse Gas Assessment for the proposed development project (**Appendix C**). The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation assuming full build-out of the project. Results of the Assessment have been incorporated into the impact discussion below. Greenhouse gases are discussed in Section 4.8.

Air Quality Impact Discussion

4.3 (a) (Air Quality Plan Conflict) Less Than Significant Impact: The BAAQMD adopted the 2017 Bay Area Clean Air Plan (CAP) 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 the air pollutants most harmful to Bay Area residents and which include particulate matter (PM), ozone (O3), and toxic air contaminants (TACs). The CAP further aims to reduce emissions of methane and other "super-greenhouse gases (GHGs)" 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, and agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP. In general, a project is consistent if a) the project supports the primary goals of the CAP, b) includes control measures and c) does not interfere with implementation of the CAP measures. The proposed project would have a less than significant impact and would not a conflict with the Clean Air planning efforts since, a) the project supports the goals of the CAP in that it limits urban sprawl by proposing development within existing urban limits; b) includes control measures to protect air quality during construction by implementing best control measures set forth by BAAQMD; and c) the proposed project would generate air quality emissions well below the BAAQMD criteria pollutant thresholds (see Section 4.3(b) below). Therefore, project impacts due to a conflict with the regional air quality plan will be less than significant.

4.3 (b) (Cumulatively Considerable Net Increase of Criteria Pollutant) Less Than Significant Impact with Mitigation: Air quality emissions associated with the proposed project would result from short-term construction activities and ongoing operation. BAAQMD Guidelines include "screening criteria" that provide a conservative estimate above which a project would be considered to have a potentially significant impact to air quality. Projects that are below the screening criteria threshold are reasonably expected to result in less than significant impacts to air quality since pollutant generation would be minimal

Construction Activities

During construction activities, the project would generate temporary air pollutant emissions associated with site preparation, ground disturbance, the operation of heavy-duty construction equipment, workers traveling to and from the site, and the delivery of materials. These activities would create temporary emissions of fugitive dust from ground disturbance, and the release of toxic air contaminants, particulate matter, and ozone precursors (ROG and NOx) from combustion of fuel and the operation of heavy-duty construction equipment.

Table 2 provides the estimated levels of ROGs, NOx, PM10, and PM2.5 that will be generated from construction activities including grading, off-hauling of materials, paving and building construction. All criteria pollutants generated by construction are well below BAAQMD thresholds of significance.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM10 and PM2.5. The BAAQMD CEQA Air Quality Guidelines consider contributions of fugitive dust to be less-than-significant if best management practices (BMPs) are implemented. As such, **Mitigation Measure AQ-1**, which provides for a variety of dust control measures during construction activities including watering the

project site, covering haul loads, limiting idling time, and temporarily halting construction when winds are greater than 15 miles per hour, is set forth below. With the implementation of Measure AQ-1 (BAAQMD-recommended best management practices), construction activities will have less than significant impacts to air quality.

Table 2: Construction Emission Estimates

Scenario	ROG	NOx	PM10 Exhaust	PM2.5 Exhaust
Construction emissions (tons per year)	2.8	5.6	0.2	0.2
Average Daily Emissions (lbs per day)[1]	14.5	29.1	1.1	1.0
BAAQMD Thresholds (lbs per day)	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019.

[1] Assumes 387 days of construction activity.

Operation

The BAAQMD CEQA Guidelines contains screening criteria, as shown in **Table 3**, for whether a proposed project could result in potentially significant air quality impacts during operation (i.e., post-construction). The operational screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are infill and/or proximate to transit service and local services (i.e., the proposed project), emissions would be less than the greenfield type project that the screening criteria are based on.

If all of the screening criteria are met by a proposed project, quantification of the project‘s air pollutant emissions is not necessary to make a determination that the impact will be below the thresholds of significance. Table 3 below includes the screening level results for the project’s long-term operational emissions.

Table 3: BAAQMD Operational Pollutant Screening Results

Land Use Type	Project	BAAQMD Screen Level	Above Screening Level?
Apartment, Mid-Rise	264 units	494 units	No

Source: Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2017, Table 3-1, pg. 3-2.

Given the screening results of Table 2 above, it can be conservatively determined the project would result in a less than significant impact due to operational emissions. This determination was verified by project-specific quantification of operational emissions as detailed in the Air Quality and Greenhouse Gas Assessment. **Table 4** below provides the estimated levels of ROGs, NOx, PM10, and PM2.5 that will be generated at project operation, including heating and cooling, water and wastewater treatment and conveyance, as well as emissions from vehicle trips generated by residents. Table 4 shows that all criteria pollutants generated during operation will be well below BAAQMD thresholds of significance. Therefore, the project will result in a less than significant impact to air quality from emissions at operation.

Table 4: Operational Emission Estimates

Scenario	ROG	NOx	PM10	PM2.5

Annual Project Operational Emissions (tons/year)	2.2	3.7	1.9	0.5
BAAQMD Thresholds (tons/year)	10	10	15	10
Exceeds Threshold?	**No**	**No**	**No**	**No**
Average Daily Emissions (lbs per day)[1]	12	20.4	10.3	3.0
BAAQMD Thresholds (lbs per day)	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019.

4.3 (c) (Exposure of Sensitive Receptors to Substantial Pollutant Concentrations) Less Than Significant Impact 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.

Sensitive receptors that could potentially be affected by dust and equipment exhaust generated by construction activities include nearby residences north of, and adjacent to, the project site. To evaluate lifetime cancer risks and non-cancer health effects of concentrations resulting from project construction, emissions and dispersion modeling were conducted. For expanded detail on the methodology used to measure construction related impacts to sensitive receptors, see the Air Quality and Greenhouse Gas Assessment prepared by Illingworth and Rodkin (**Appendix C**).

Construction

Project-related construction activities will result in short-term air quality emissions that have the potential to affect existing nearby sensitive receptors (residences to the north). Heavy equipment used during construction activities would emit diesel particulate matter (DPM), which is recognized by the State of California as containing carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of exposure. This is defined by the California Air Pollution Control Officers Association as 24 hours per day, 7 days per week, 365 days per year, for 70 years for residences and 40 years for children.

Project construction was assumed to last approximately 18 months. Annual DPM and PM2.5 concentrations were calculated at nearby sensitive receptors, using receptor heights of 5 feet, 15 feet, and 25 feet to represent the breathing heights of residents on the first, second, and third floors of the nearby residential units. As detailed in the HRA, the maximum concentrations occurred on the second floor (15 feet) of the southwest corner unit of the residential building immediately north of the project site.

Using the maximum annual modeled DPM concentration, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated (**Table 5**). Results indicate that the maximum increased residential cancer risks without any mitigation or construction emissions control would be 25 in one million for an infant exposure and 0.4 in one million for an adult exposure. The maximum residential excess cancer risk would exceed the BAAQMD significance threshold of 10 in one million. The maximum-modeled annual PM2.5 concentration, which is based on combined exhaust and fugitive dust emissions, was 0.09 µg/m^3. This maximum annual PM2.5 concentration would not exceed the BAAQMD significance threshold of greater than 0.3 µg/m^3. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.0830 µg/m^3. The maximum computed HI based on this DPM concentration is 0.02, which does not exceed the BAAQMD significance threshold of an HI greater than 1.0.

The proposed project would result in a significant impact related to community risk from construction activities, since the maximum cancer risk is above the single-source thresholds of 10.0 per million. As such, the project shall implement **Mitigation Measure AQ-2**, which requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 60 percent reduction, or more, in particulate matter exhaust emissions. Measure AQ-2 will ensure that exposure of nearby neighbors (sensitive receptors) to construction related health risk emissions are reduced to levels below

significance. In addition, as stated in Section 4.3(a), the project shall implement Measure AQ-1, which includes BAAQMD best management practices for dust control. With implementation of AQ-1 and AQ-2 (60% reduction in particulate emissions), construction activities will have less than significant impacts to air quality related to construction emissions.

The cumulative impacts of TAC emissions from construction of the project, traffic on Lakeville Highway, and the stationary sources on the construction MEI are summarized in **Table 5**. As shown in Table 5, the sum of impacts from combined sources at the construction MEI would be below the cumulative source thresholds established by the BAAQMD. Nonetheless, the project shall implement AQ-1 and AQ-2, which will reduce the cumulative impacts of TAC emissions on the construction MEI. Therefore, cumulative impacts will be less than significant.

Table 5: Health Risk Impact At Construction MEI

Source	Maximum Cancer Risk (per million)	PM2.5 Concentration (µg/m3)	Hazard Index
Project Construction			
Unmitigated	*25.0 (infant)*	*0.09*	*0.02*
Mitigated	*3.4 (infant)*	*0.02*	*<0.01*
BAAQMD Threshold – Single Source	**10.0**	**0.3**	**1.0**
Exceeds Threshold?			
Unmitigated	***Yes***	***No***	***No***
Mitigated	***No***	***No***	***No***
Lakeville Highway at 1,000 feet, South Link 742 (6 ft. elev.)	2.9	0.02	<0.01
Plant #111824 (GDF) at 1,000 feet	0.3	N/A	<0.01
Plant #109860 (GDF) at 915 feet	<0.1	N/A	<0.01
Plant #19465 (generator) at 875 feet	<0.1	<0.01	<0.01
Plant #22419 (coffee roaster) at 1,000 feet	0.1	<0.01	<0.01
Combined Sources			
Unmitigated	*<28.5*	*<0.13*	*<0.07*
Mitigated	*<6.9*	*<0.06*	*<0.06*
BAAQMD Threshold – Combined Sources	**100**	**0.8**	**10.0**
Exceeds Threshold?			
Unmitigated	***No***	***No***	***No***
Mitigated	***No***	***No***	***No***

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019.

Operation

At operation, the project will not generate stationary source emissions that could affect sensitive receptors. However, the project's new residents have the potential to be exposed to toxic air contaminants (TACs) released

by vehicles traveling on nearby roads as well as from stationary sources permitted by BAAQMD. Exposure of new residents to an ambient condition is not considered an environmental impact under CEQA, and CEQA does not require evaluation of the environment's impact on a project.

However, introducing new sensitive receptors to areas with elevated TAC levels could introduce an inconsistency with General Plan Policy 4-P-17: Avoid potential health effects and citizen complaints that may be caused by sources of odors, dust from agricultural uses, or toxic air contaminants.

The BAAQMD provides CEQA community risk and hazards screening tools for lead agencies to use when considering whether there should be further, more detailed environmental review of a project. Lead agencies may use the screening tools to assess a project's potential risk and hazard impacts, compare the results to the lead agency's applicable thresholds of significance, and determine whether additional analysis is necessary.

The BAAQMD Risk and Hazard Screening Analysis Process Flowchart directs that lead agencies should identify three (3) emission sources (i.e., highway, major roadway, stationary) within 1,000 feet of a project's boundary and compare each source individually against the screening criteria and directs that the values from all sources be compared against a cumulative screening value. The emission sources in the vicinity of the project site include Lakeville Highway and stationary source emitters (gas dispensing facilities, a generator, and a coffee roaster).

Permitted Stationary Sources

Stationary sources have permits to operate from the BAAQMD and emit one or more toxic air contaminants. These types of sources include, but are not limited to, refineries, gasoline-dispensing facilities, dry cleaners, diesel internal combustion engines, natural gas turbines, crematories, landfills, wastewater treatment facilities, hospitals, and coffee roasters. **Table 6** below identifies stationary sources within 1,000 feet of the project site, and include gasoline dispensing facilities (GDFs), a generator, and a coffee roaster.

As demonstrated in Table 6, the project would not locate sensitive receptors in proximity to stationary sources of toxic air contaminants at levels above BAAQMD established thresholds of significance. Therefore, the siting of new sensitive receptors at the project site is not inconsistent with General Plan Policy 4-P-17 related to stationary sources.

Table 6: Community Risk Impact To New Project Residences From Permitted Stationary Sources

Source	Cancer Risk (per million)	Annual PM2.5 µg/m3	Chronic Hazard Index
Plant #111824 (GDF) at 1,000 feet	0.8	N/A	<0.01
Plant #109860 (GDF) at 375 feet	1.2	N/A	0.01
Plant #19465 (generator) at 615 feet	<0.1	0.01	<0.01
Plant #22419 (coffee roaster) at 900 feet	<0.1	<0.01	<0.01
BAAQMD Single-Source Threshold	**10.0**	**0.3**	**1.0**
Exceeds Threshold?	**No**	**No**	**No**
Cumulative Total	<2.2	<0.02	<0.04
BAAQMD Cumulative Source Threshold	**100**	**0.8**	**10**
Exceeds Threshold?	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019.

Highway/Roadway Emissions

Lakeville Highway is located approximately 800 feet north of the project site and conveys 37,000 annual average daily trips. There are no other roadways within 1,000 feet of the project site that convey more than 10,000 vehicles per day. As shown in **Table 7** below, the emissions from Lakeville Highway are below the BAAQMD significance thresholds at the project site. Therefore, the siting of new sensitive receptors at the project site is not inconsistent with General Plan Policy 4-P-17 related to roadways.

Cumulative

The cumulative health risk levels for the project accounting for all sources discussed above is provided in **Table 7**. The potential health risks associated with Lakeville Highway and all permitted stationary sources is below BAAQMD established thresholds. Therefore, the siting of new sensitive receptors at the project site is not inconsistent with General Plan Policy 4-P-17 related to cumulative sources of TACs.

Table 7: Cumulative Community Risk Impact to New Project Residences

Source	Cancer Risk (per million)	Annual PM2.5 µg/m3	Chronic Hazard Index
Lakeville Highway	3.7	0.02	<0.01
Permitted Stationary Sources	<2.2	<0.02	<0.04
Cumulative	**<5.9**	**<0.04**	**<0.05**
BAAQMD Cumulative Source Threshold	**100**	**0.8**	**10**
Exceeds Threshold?	**No**	**No**	**No**

4.3 (e) (Other Emissions and Odors) Less Than Significant Impact with Mitigation: As a residential development, the project will not create other emissions, such as those leading to odors, affecting a substantial number of people at operation. Although there may be occasional emissions leading to odors during construction associated with street paving and architectural coating, these are short term in duration and will cease once construction is complete.

As described in Section 4.9 Hazards/Hazardous Materials, multiple subsurface investigations have been conducted at the subject property, and these investigations have confirmed multiple Recognized Environmental Conditions (RECs). As such, contaminated soils and groundwater may be encountered during construction activities. The contaminants in the soils and groundwater, such as arsenic, could emit odors. However, as stated in Section 4.9, the applicant shall prepare and implement a Risk Management Plan as required by **Mitigation Measure HAZ-1**, which will ensure that contaminated soils and groundwater are handled in a manner that precludes exposure of construction workers and future residents to elevated concentrations of hazardous substances, including odors from those substances. With implementation of Mitigation Measure HAZ-1, the project will have less than significant impacts to air quality due to other emissions (such as those leading to odors).

Mitigation Measures:

AQ-1: The applicant shall incorporate the Best Management Practices (BMPs) for construction into the construction and improvement plans and clearly indicate these provisions in the specifications. In addition, an erosion control program shall be prepared and submitted to the City of Petaluma prior to any construction activity. BMPs shall include but not be limited to the BAAQMD Basic Construction Mitigation Measures as modified below:

1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three 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 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

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 condition prior to operation.

8) Construction equipment staging shall occur as far as possible from existing sensitive receptors.

9) The Developer shall designate a person with authority to require increased watering to monitor the dust and erosion control program and provide name and phone number to the City prior to issuance of grading permits. Post a publicly visible sign with the telephone number of designated person 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: To reduce potential impacts to air quality during construction, the project shall develop and implement a plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 60 percent reduction, or more, in particulate matter exhaust emissions. Examples of how to achieve this reduction may include but is not limited to a combination of the following:

1) Diesel-powered off-road equipment larger than 25 horsepower operating on-site for more than two days continuously shall at a minimum meet U.S. EPA particulate matter emissions standards for Tier 2 engines that include CARB-certified Level 3 Diesel Particulate Filters or equivalent.[6] (U.S. EPA Tier 3 standards with DPF 3 filters for particulate matter or engines meeting Tier 4 particulate matter standards would meet this requirement).

2) Use of construction equipment that is alternatively-fueled (non-diesel).

3) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.

4) Minimize the idling time of diesel-powered construction equipment to two minutes.

5) All construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.

6) Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.

[6] http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

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; Petaluma River Access and Enhancement Plan; City of Petaluma Implementing Zoning Ordinance (IZO); Habitat Mitigation Monitoring Plan, prepared by WRA, December 2019 and Revised May 2020; Biological Assessment Report, prepared by WRA Environmental Consultants, July 2020; and Becky Duckles, Arborist Report, Revised September 10, 2020.

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. Sensitive communities and special status species are regulated by state and federal agencies, including the U.S. Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

Within the Urban Growth Boundary, biological resources are largely limited to the Petaluma River and its tributaries, which contain aquatic and riparian resources, as well as wetlands. The National Wetland inventory identifies fresh

emergent wetlands in the southern portion of the Petaluma River and Northern coastal salt marsh wetland and brackish marsh wetland in the lower reaches of the Petaluma River.

As presented in the Biological Assessment Report (**Appendix D**), the project site is characterized by non-sensitive biological communities (common, non-native annual grassland and onsite stockpiles) and sensitive biological communities including seasonal wetlands, emergency freshwater marsh, and a drainage ditch (classified as waters). As described above, the project site has been previously disturbed by past uses and a portion of the project site required clean up and remediation to remove contaminants. A majority of the project site is occupied by non-sensitive communities including ruderal disturbed grassland (10.66 acre) and stockpile (1.63 acres). A portion of the disturbed grassland contains low value riparian habitat along the western property line. Sensitive biological communities include seasonal wetland, which occupy approximately 2 acres of the site, including 0.13 acres that are lead impacted and require remediation. Seasonal wetlands are generally located around the periphery of the site at the western, eastern, and southern boundaries (Figure 6: Wetland Preservation Plan). Freshwater emergent marsh, approximately 0.15 acre, is located in the southwestern most corner of the site and extends offsite to the south. The drainage ditch, at the site access, is characterized as waters and conveys runoff and nuisance water generated from surrounding developments (0.01 acre).

The Biological Assessment Report (BRA) characterizes the special status plant and wildlife species expected to occur in the vicinity and presents the likelihood of occurrence onsite, which is informed by records review[7], site reconnaissance and protocol level plant surveys conducted in 2008, 2018, and 2019. No special status plant species were detected during protocol level surveys performed during peak blooming periods. Due to the project site location adjacent to marshland of the Petaluma River, there are a number of special status wildlife species with moderate or high occurrence potential onsite and in the immediate vicinity. The projects potential to result in direct and indirect impacts to biological resources are informed by the BRA and presented in the following discussion.

Biological Resources Impact Discussion

4.4 (a-b) (Special Status Species, Sensitive Communities) Less Than Significant Impact with Mitigation: The dominant plant community onsite is ruderal/non-native annual grassland (10.66 acres). Other onsite communities are seasonal wetlands (2.00 acres), freshwater emergent marsh (0.15 acre), and “waters” (0.01 acre), all of which are sensitive habitats. The Project site is contiguous to open space lands that contain sensitive communities including freshwater emergent marsh, seasonal wetlands, salt panne, and tidal marsh.

Sensitive Natural Communities

Development of the project has the potential to result in direct impact to sensitive communities onsite and indirect impacts to sensitive communities in the immediate site vicinity. The project site’s sensitive communities consist of seasonal wetlands, freshwater emergent marsh, and water, which are characterized as follows:

Seasonal wetland is not described as a distinct series because it is not characterized by a single dominant plant species, or a typical group of plant species. Seasonal wetland areas were vegetated by species such as ryegrass (*Lolium perenne = Festuca perennis*), rabbitsfoot grass (*Polypogon monspeliensis*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), curly dock (*Rumex crispus*), swamp timothy (*Crypsis shoenoides*), hyssop (*Lythrum hyssopifolia*), and tall flatsedge (*Cyperus eragrostis*). As further described under item 4.4(c) below, the project will impact 1.52 acres of seasonal wetlands and will preserve 0.63 acres of seasonal wetlands onsite.

Freshwater emergent marsh is not described as a distinct series due to highly variable plant species composition. A small pocket of freshwater marsh dominated by cattail (*Typha latifolia*) occurred within the southwestern portion of the project site including approximately 0.15 acres onsite and 0.10 acres extending offsite to the south. Freshwater emergent marsh is preserved under the proposed project. Impacts to freshwater marsh are described under item 4.4(c) below.

Waters onsite are limited to the unvegetated drainage channel located at the access driveway from Casa Grande Road. This feature conveys runoff during storm events and nuisance water generated from surrounding

[7] California Natural Diversity Data Base (CNDDB) and the California Native Plant Society Electronic Inventory (CNPS 2019).

development. An area of 0.01 acres, identified as jurisdictional waters will be impacted by the proposed project. Impacts to jurisdictional "waters" are further described under item 4.4(c) below

Riparian Habitat

The drainage channel along the western property boundary is open and concrete lined with a section of steel culvert where the access road enters the project site and transitions to soil substrate downstream. The portion of the channel near the site access contain a double culvert and requires periodic sediment and vegetation removal in order to maintain flows during storms to prevent local flooding. The channel is dominated by mature eucalyptus trees, all of which are identified for removal as part of the soil remediation activities. With the exception of a single willow (*Salix lasiolepis*) shrub and a single Coast Live Oak, the channel does not support riparian species as described in the Fish and Game Code and the California Code of Regulations. However, during a site visit in March 2020 CDFW determined that the drainage channel would be considered jurisdictional and a 1602 Streambed Alteration Agreement would be required. Although eucalyptus trees are not regulated by the City of Petaluma's Tree Protection Ordinance, the CDFW has indicated that a 1:1 replacement ratio will be required for removal of the eucalyptus trees along the drainage channel. The project as proposed includes a Supplemental Planting Plan that identifies the location and species that will be planted to replace the removed eucalyptus trees along the drainage channel. The Supplemental Planting Plan identifies a total of 124 new trees consisting of 5 native species, which exceeds a 1:1 replacement ratio.

The existing drainage channel provides limited riparian habitat value as it lacks native species, is dominated by eucalyptus, and abuts the Rocky Memorial Dog Park, which is located immediately to the west. The project will result in impacts to approximately 0.75 acres of overhead canopy due to the removal of trees and the remediation of contaminated soils. Impacts to riparian habitat along approximately 465 feet of the western channel are considered potentially significant and require mitigation to reduce impacts to less than significant levels. **Mitigation Measure BIO-1**, requires a 1:1 replacement ratio for permanent impacts to riparian habitat, replanting of removed trees at a 1:1 ratio, a monitoring program to ensure reestablishment of habitat, and any other stipulations that may be required through the regulatory permit process including from the CDFW (1602) and RWQCB (401). With mitigation, potential impacts to riparian habitat will be reduced to less than significant levels.

Special Status Species

Although rare and special status plant species are unlikely to occur onsite and in the immediate vicinity, a limited number of special status wildlife species are known to occur or have moderate or high occurrence potential in the vicinity.

Plant Species

Three years of protocol level rare plant survey were performed (2008, 2018, and 2019) all with negative results. Based on results of rare plant surveys the BRA concludes that plant species are unlikely or have no potential to occur because of the lack of suitable habitat onsite and in the vicinity. The habitat was determined to be unsuitable due to the limited extent of native vegetation communities (e.g., coastal scrub, chaparral, forest or woodland), lack of appropriate substrates or land forms (e.g., adobe clay or serpentine soils, coastal bluffs, sand dunes, rock outcrops), and/or site elevation, which is lower or higher than the typical elevation range of many special status plant species. No special-status plant species were detected during protocol-level surveys and none are known to occur onsite or in the vicinity. As rare plants are not present onsite or in the immediate vicinity, the proposed project would not result in direct or indirect impacts to rare plant species. Therefore, no impacts to special-status plant species would occur from implementation of the proposed project.

Wildlife Species

Numerous special-status wildlife species have been recorded within 5 miles of the project area. Most of these wildlife species have no potential to occur or are unlikely to occur onsite because the habitat conditions within the project area are unsuitable for breeding, rearing, and/or foraging, and land uses surrounding the project area offer limited value for special-status wildlife species. However, nine special-status wildlife species have a moderate or high potential for occurrence within the project area and are further discussed below, including seven avian species, one special-status mouse species, and two special-status reptiles (one turtle species and one frog species).

Avian Species

White-tailed kite (*Elanus leucurus*), a CDFW Fully Protected Species, are associated with annual grasslands, agricultural areas, scrub habitats, wet meadows, and emergent wetlands throughout the lower elevations of California. Nesting generally occurs in shrubs or small trees. Individuals are likely to forage over open areas of the site throughout the year. The non-native annual grassland and marsh provide foraging habitat; nesting habitat is available in the eucalyptus trees within the project area.

Northern harrier (*Circus cyaneus*), a CDFW Species of Special Concern, are residents of open wetlands, including marshy meadows; wet, lightly grazed pastures; old fields; freshwater and brackish marshes. They also frequent dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, cold desert shrub-steppe, and riparian woodland throughout California. Harriers typically nest on ground in open (treeless) habitats in dense, often tall, vegetation. The project site contains suitable nesting and foraging habitat for this species; however, chronic disturbance from the presence of people and dogs, likely precludes nesting attempts within and immediately adjacent to the project site.

California black rail (*Laterallus jamaicensis coturniculus*) is a State Threatened, CDFW Fully Protected, and USFWS Bird of Conservation Concern. This species occurs most commonly in the upper tidal zone of emergent wetlands or brackish marshes dominated by bulrush (*Schoenoplectus spp*.), cordgrass (*Spartina spp*.), and pickleweed (*Salicornia spp*.), most commonly nesting in dense cover such as pickleweed. The emergent marsh habitat within and adjacent to the project site may provide suitable foraging and nesting habitat for this species.

California ridgeway's rail (*Rallus longirostris obsoletus*) is Federally Endangered, State Endangered, and CDFW Fully Protected. Nesting occurs predominantly in the low portions of coastal wetlands and tidal sloughs dominated by cordgrass, pickleweed, and gumplant (*Grindelia cuneifolia*). The emergent marsh habitat within and adjacent to the project site may provide suitable foraging and nesting habitat for this species.

Loggerhead shrike (*Lanius ludovicianus*), a CDFW Species of Special Concern and USFWS Bird of Conservation Concern, is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. Nests are usually built on a stable branch in a densely-foliated shrub or small tree and are usually well-concealed. Non-native grassland and the marsh within and adjacent to the project site provide foraging habitat. Nesting habitat is available in the shrubs and trees within the project area.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is a CDFW Species of Special Concern and a USFWS Bird of Conservation Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation for foraging and prefers willows for nesting. A species account has been recorded for lands adjacent to and including the southern portion of the project site. Emergent vegetation along the drainages may provide foraging and nesting habitat within the project site.

Samuels (San Pablo) song sparrow (*Melospiza melodia samuelis*), a CDFW Species of Special Concern and USFWS Bird of Conservation Concern, inhabits salt, fresh, and brackish marshes, and the moist, brushy, weedy edges of these habitats in the San Pablo Bay. The song sparrow will avoid areas where water is stagnant and/or tidal flow is obstructed. Suitable nesting and foraging habitat for this species is available within the project site.

The project site contains mature trees primarily along the wester and north site boundary including approximately 94 eucalyptus trees that may provide suitable nesting habitat for common songbirds, passerine bird species (such as warblers, flycatchers, and swallows), and raptors. All of these birds are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their eggs and young are also protected under California Fish and Game Code Sections 3503, 3503.5.

Removal of existing trees to accommodate the proposed project will eliminate nesting and perching habitat, which could result in potential temporary impacts to avian species. The project will reintroduce approximately 600 trees of various species and varying height and canopy coverage that once established will provide opportunities for nesting and perching. Additionally, the project will install native plantings along the drainage channel at the site's western margin as set forth in the Supplemental Planting Plan, which will provide enhanced riparian habitat by introducing

native tree species in accordance with measure BIO-1. Therefore, impacts from loss of nesting and perching habitat will be reduced to less than significant levels.

Potential impacts from the proposed project to special-status avian species identified above, or other birds protected under the MBTA, include disturbance and displacement or injury and mortality to active nests of breeding bird, which may result from proposed remediation, tree removal, and construction and grading activities proposed by the project. Impacts to nesting birds is considered potentially significant if not properly mitigated. To avoid impacts to nesting birds during the breeding period, disturbance to active nests if present (i.e., contain eggs or young) shall be avoided. **Mitigation Measure BIO-2** requires removal of vegetation to be performed during the non-breeding season (September 1 through January 31), and if vegetation removal and/or construction cannot be avoided during the breeding season (February 1 through August 31), pre-construction surveys shall be conducted within 14 days prior to start of work to identify active nests, and if active nests are identified construction exclusion buffer zones shall be established and maintained until the young have fledged. With implementation of measure BIO-2, potential impacts to special-status avian species and other birds protected under the MBTA would be reduced to less than significant levels.

As described above, suitable foraging and nesting habitat for two rail species (California black rail and California ridgeway rail) may be present in the southwestern most portion of the project site, where freshwater emergent marsh habitat is identified and extends offsite to the south. As proposed, the project will retain emergent marsh habitat. This area is adjacent to the existing Rocky Memorial Dog Park and experiences a certain level of disturbance associated with people and dogs. Nonetheless, during construction the project has the potential to result in direct and indirect impacts to nesting rails, which may be sensitive to construction activities or noise. **Mitigation measure BIO-3** requires pre-construction surveys and avoidance through establishing nesting buffers specific for rail species. Therefore, with mitigation potential impacts to rails will be reduced to less than significant levels.

Other Wildlife Species

Salt marsh harvest mouse (*Reithrodontomys raviventris*) is Federally and State Endangered and CDFW Fully Protected. This small mammal is typically associated with salt marsh vegetation, occasionally seeking refuge in adjacent upland areas during extreme high tides. SMHM presence is assumed in all pickleweed dominant salt marsh habitat. Species occurrence has been recorded in the vicinity of the Study Area. The tidal wetland south of the project site may provide suitable foraging and nesting habitat for this species and the upland habitat immediately adjacent to the marsh habitat may provide suitable foraging and/or refuge habitat during extreme high tide events. SMHM is considered a cover dependent species and will avoid open area, even areas as narrow as 10 meters wide will act as a barrier for movement. Goat grazing that removed vegetation cover for fire prevention, likely precludes SMHM.

Suitable upland habitat, with cover, for refuge is available in the tidal habitat of the surrounding uplands near the Petaluma River, Alman Marsh, and Adobe Creek-Shollenberger Park. The project site has been previously disturbed and contains ruderal vegetation with open areas and has been subject to grazing for fire prevention. Additionally, there is no pickleweed areas within the project site. As such, development of the project site is not considered a significant loss of SMHM habitat. Nonetheless, site remediation and construction activities could result in potential habitat degradation, removal, or disturbance and displacement of SMHM, which would be considered a significant impact if not avoided.

Potential impacts to the SMHM as a result of the proposed project can be avoided through implementation of **Mitigation Measure BIO-3**, which requires vegetation removal protocols for SMHM, installation of exclusion buffers/fencing, and onsite monitoring by a qualified biologist. With implementation of BIO-3, potential impacts to the SMHM will be avoided, and impacts to SMHM habitat will be less-than-significant.

Western pond turtle (*Actinemys marmorata*), a CDFW Species of Special Concern, inhabits perennial aquatic habitats, such as lakes, ponds, rivers, and streams that provide submerged cover and basking structures. Western pond turtle (WPT) prefer to nest on unshaded slopes close to their aquatic habitat, and hatchlings require shallow water with relatively dense emergent and submergent vegetation for foraging. River banks exposed during low tides may provide basking habitat. Emergent vegetation may provide foraging habitat for hatchlings and juveniles. WPT has never been observed and is not likely to be present onsite or in the immediate vicinity for either nesting or

migration because of the site's distance from suitable aquatic habitat, lack of suitable onsite habitat, and the presence of ample suitable WPT habitat near the Petaluma River, Alman Marsh, and Adobe-Creek Shollenberger Park. Nonetheless, site remediation and construction activities could result in WPT habitat degradation and loss, disturbance and displacement including injury or mortality of nests, if not properly controlled.

Potential impacts to this species from the proposed project can be avoided through implementation of **Mitigation Measure BIO-4**, which calls for pre-construction WPT surveys, installation of exclusion buffers/fencing, and monitoring onsite by a qualified biologist during remediation and grading activities. With implementation of BIO-4, potential impacts to the WPT will be reduced to less-than-significant levels.

California red-legged frog (*Rana draytonii*) is Federally Endangered and a CDFW Species of Special Concern. The This species resides in lowlands and foothills proximate to permanent sources of deep water alongside emergent and riparian vegetation. California red-legged frog (CRLF) are freshwater species and have slight tolerances to salinity and are known to occur in freshwater environments adjacent to brackish water. CRLF breeding occurs in a variety of aquatic habitats such as streams, deep pools, backwater areas, ponds, marshes, sag ponds, dune ponds and lagoons with egg masses generally deposited on emergent vegetation. Although the project site lacks suitable freshwater aquatic habitat and no burrows were observed, the onsite drainage ditch, seasonal wetlands, and emergent marsh could potentially support CRLF during wet years, but the site is not considered high quality breeding habitat. While portions of the project site may provide suitable summer refuge habitat, portions of the site that are contaminated, previously disturbed, and subject to grazing do not provide suitable CRLF habitat. In 2010 protocol level CRLF surveys were performed onsite and yielded negative results. As such, it is unlikely that the project supports a CRLF population, though migrant individuals may be encountered. To avoid potential impacts to any of these migrant individuals and potential impacts resulting in reduced foraging opportunities, forage quality, and reduced refuge, **Mitigation Measure BIO-4** shall be implemented.

Measure BIO-4 requires avoidance of CRLF through the installation of exclusionary fencing during construction activities, controls on construction work, and a contractor education program. In addition, Measure BIO-5 requires protection of wetlands to be retained, thereby preserving potentially suitable habitat onsite. Furthermore, the creation of offsite mitigation wetlands, as set forth in Mitigation Measure BIO-6 and further described below, requires replacement habitat that is higher in quality and in a more suitable location for CRLF. Therefore, with implementation of measures BIO-4 through BIO-6, potential impacts to the CRLF will be reduced to less-than-significant levels.

As described in the analysis above, the project site is previously disturbed, with areas of contamination, and generally lacking in high quality suitable habitat. Furthermore, the project site is adjacent to existing development including residential apartments to the north, the Rocky Dog Memorial Park to the west and commercial development to the east. Additionally, the project applicant has dedicated 5.95 acres immediately adjacent to the southern property line to the State Land Commission, which will be preserved in perpetuity and which provides tidal wetland habitat and upland habitat, and augments potentially suitable habitat along the Petaluma River. However, the open space areas associated with the Petaluma River support a variety of special status species, and the project could potentially result in direct and indirect impacts to special status wildlife species and sensitive habitats due to site remediation, grading and development. In order to ensure that potential impacts to special status species and sensitive communities are avoided, offset, and otherwise reduced to levels below significance, mitigation measures BIO-1 through BIO-4, as described above, as well as measures BIO-5 and BIO-6 described below, shall be implemented. With implementation of avoidance measures, onsite remediation, preservation and replanting, and offsite created wetland, impacts to special status wildlife species and sensitive habitats will be reduced to less than significant levels.

4.4 (c) (Wetlands) Less Than Significant Impact with Mitigation: As previously stated, the project site contains seasonal wetlands (2 acres), emergent freshwater marsh (0.15 acre), and "waters" (0.01 acre). These areas have been determined to be jurisdictional. A jurisdictional determination was initially verified by the Corps in 2009 with an extension granted in 2014. On January 29, 2015, the Corps issued a Preliminary Jurisdictional Determination as to the extent and location of wetlands and other water of the U.S.

Ruderal habitat as well as 1.52 acres of seasonal wetlands will be graded and filled to accommodate the proposed project. An estimated 0.63 acres of seasonal wetland will be retained onsite including 0.13 acres of lead impacted wetland, which will be remediated and preserved under the proposed project. To ensure that wetlands to be retained onsite, as well as to ensure that existing wetlands in the immediate site vicinity are not adversely impacted during

construction, **Mitigation Measure BIO-5** shall be implemented. Measure BIO-5 requires that grading activities occur during the dry months of year (typically between May and October), and that best management practices be implemented at all time to preclude sediment runoff from the construction site including straw wattles, hay bales, etc. This measure also requires that appropriate inlets and outlets of wetlands are retained and that natural flows remain unrestricted. With implementation of BIO-5, potential impacts to wetland to be preserved will be reduced to less than significant levels.

The project will result in fill to seasonal wetlands (1.52 acres), which is considered a potentially significant impact and requires compensatory mitigation. In order to reduce potentially significant impacts to less than significant levels, **Mitigation Measure BIO-6** shall be implemented, which requires replacement of wetlands and approval from regulatory agencies (Corps and RWQCB). The project proposes to offset fill to onsite wetlands through the creation of offsite wetlands at a 2:1 ratio. Offsite wetland mitigation is proposed approximately 1.8 miles upstream of the project site along Adobe Creek at the former Adobe Creek Golf Course.

To successfully provide compensatory mitigation, a Habitat Mitigation and Monitoring Plan (HMMP), **Appendix E** hereto, was developed by the project biologist, WRA, and shall be implemented as part of measure BIO-6. The HMMP, dated December 2019 updated May 2020, provides for the development, maintenance, and 5-year monitoring of the proposed offsite created wetland and restoration activities. The HMMP includes the creation of 3.64 acres of offsite wetlands, though only 3.04 acres are required, to offset the 1.52 acres of seasonal wetlands that will be filled onsite, as well as temporary impacts to 0.13 acres of remediated wetlands, which will be temporarily impacted and retained following remediation. Further, the HMMP characterizes the offsite conditions, specifies the wetland creation workplan, sets forth success criteria and monitoring, as well as maintenance, and reporting, along with an adaptive long-term management plan. In accordance with measure BIO-6, a final HMMP will be prepared and accepted by the regulatory agencies through the project permitting process. Therefore, with compensatory mitigation and implementation of the HMMP, potential impacts to wetlands as a result of the proposed project will be reduced to less than significant levels.

4.4 (d) (Wildlife/Fish Movement & Nursery) Less Than Significant Impact: The subject property, which is bounded by marsh and open space to the south, and established development to the north, east and west, does not serve as a migratory wildlife corridor. As described in the narrative above, the project site is previously disturbed and lacks suitable habitat for most species. The project site does not provide any opportunities for fish movement nor does it support a native wildlife nursery. Open space lands in the vicinity of the project site will be retained, including the 5.9-acre property between the project site and the Petaluma River to the south, which has been dedicated to the State Lands Commission (SLC) for preservation in perpetuity.

The proposed development is consistent with the City's General Plan, zoning code and housing element, which call for residential development onsite. The project includes new lighting associated with street lamps and exterior residential lighting that could shine down into the adjacent marsh, thereby disrupting wildlife movements in the site vicinity. Nighttime illumination can intrude into wildlife habitats mimicking extended daylight conditions and disturbing nocturnal behavior and movement patterns as well as increasing the predation risk. However, as discussed in Section 4.1(d), all outdoor lighting will be shielded downward and comply with the maximum illumination requirements in IZO §21.040(D). Accordingly, the project will not 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. Therefore, the project will have less than significant impacts to wildlife corridors and species movements.

4.4 (e) (Tree Preservation) Less Than Significant Impact with Mitigation: Petaluma's Implementing Zoning Ordinance (IZO) Chapter 17 addresses tree preservation requirements with development projects. IZO §17.040 defines which tree species and sizes are subject to review and further identifies general tree characteristics defining a protected tree, including heritage trees, significant groves or stands of trees, trees located in riparian corridors or in public rights of way, and trees from mitigation.

As part of the soil remediation effort, the windrow of eucalyptus trees will be removed from the western property line, approximately 50 and approximately 44 eucalyptus trees including clusters will be removed from the northern property line to accommodate the multi-use trail proposed by the project. Trees to be removed from the project site to accommodate the proposed development include two windrows of Blue Gum (*Eucalyptus globulus*), two Monterey Pines (*Pinus radiata*), one Lombardy Poplar (*Populus nigra*), two Black Walnuts (*Juglans californica*),

one Willow (*Salix sp*.), and one Coast Live Oak (*Quercus agrifolia*). Other than a single Coast Live Oak none of the trees proposed for removal to accommodate the proposed development are considered 'protected trees' under Petaluma's Implementing Zoning Ordinance Chapter 17 (Tree Preservation).

To avoid a potential conflict with the City's Tree Preservation Ordinance due to the removal of one protected Coast Live Oak tree, **Mitigation Measure BIO-7** shall be implemented. Mitigation Measure BIO-7 requires replacement onsite at a 1:1 trunk diameter basis, which equates to 13 inches of trunk diameter replacement. Replacement tree ratios in the City's Tree Ordinance provide that 24" box trees equate to 2" of trunk diameter replacement and 36" box tree equate to 3" of trunk diameter replacement. Replacement would be five 24-inch boxed live oaks and one 36" box live oak, which equates to 13" of trunk diameter replacement. With implementation of measure BIO-7, as well as the proposed onsite planting and supplemental planting plan potential impacts due to tree preservation will be reduced to less than significant levels.

The CDFW has indicated jurisdiction over the drainage channel along the western property boundary and suggests a 1:1 onsite replacement ratio for the removal of eucalyptus trees along this feature. The project includes a supplemental tree planting plan that provides for replacement of eucalyptus to be removed by replanting of native species along the western boundary. As proposed, 123 15-gallon size native trees will be replanted including box elder, California lilac, blue elderberry, coast live oaks, and black oaks. The supplemental replanting plan exceeds the 1:1 onsite replacement ratio suggested by CDFW. Therefore, the project's potential impacts due to a conflict with tree preservation will be less than significant.

4.4 (f) (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. No impact would result under this criterion.

Mitigation Measures:

BIO-1: To offset impacts to the linear channel (approximately 85 linear feet) and riparian habitat (approximately 465 linear feet and 0.75 acres of tree canopy coverage) the following shall be implemented:

1. The supplemental replacement plan (for removal of eucalyptus trees) shall demonstrate not less than 1:1 replacement of native tree species for each mature eucalyptus and pine tree to be removed and shall include a monitoring program with specified performance criteria achieving 85% establishment after 5 year or as otherwise approved by the CDFW as part of a Lake and Streambed Alteration Agreement prior to the removal of eucalyptus trees.

2. The final habitat mitigation and monitoring plan (HMMP) shall describe temporary and permanent impacts to the linear channel and the riparian habitat and shall demonstrate a ratio of not less than 1:1 replacement for loss of the linear channel (0.01 acre) and disturbance to the riparian habitat. Replacement of the linear channel swale shall consist of creating 85 linear feet of swale between created wetlands at the offsite Adobe Creek Mitigation Area, and due to this offsite mitigation, 26 native trees will be planted onsite along the western channel as additional replacement of riparian habitat. The HMMP shall include a monitoring program to be reviewed and accepted by the CDFW as part of a Lake and Streambed Alteration Agreement prior to issuance of a grading permit.

3. Prior to issuance of a grading permit, the applicant shall obtain permits from regulatory agencies including the CDFW (1602) and RWQCB (401) for temporary and permanent impacts to the linear channel and riparian habitat and make permits available to the City.

BIO-2: To avoid impacts to special-status avian species and birds protected under the Migratory Bird Treaty Act, the following shall be implemented:

1. Site preparation activities, including remediation and removal of trees, should occur outside of the bird-nesting season between September 1st and January 31st. If vegetation removal or construction begins between February 1 and August 31, preconstruction surveys using recognized CDFW and USFWS protocols including call count surveys shall be conducted by a qualified biologist within 14 days prior to vegetation removal or ground disturbance activities to determine absence or the presence and location of nesting bird species. If active nests are present, temporary protective construction exclusion zones shall be established

by a qualified biologist in order to avoid direct or indirect mortality or disruption of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist. Exclusion zones shall remain in place until all young have fledged or until the nest has been naturally abandoned or predated. Work may proceed if no active nests are found during surveys or once nests are determined by a qualified biologist to be no longer active.

2. Cleared vegetation shall be collected and transported offsite to prevent birds from nesting in vegetative debris.

3. If there is a lapse in construction activity or if construction activity is phased at the work site, preconstruction and nesting bird surveys shall be repeated.

4. Prior to issuance of occupancy, signage shall be installed onsite informing users accessing offsite trails of sensitive habitat and that dogs shall be kept on leash at all times.

BIO-3: To avoid impacts during heavy construction activities and ongoing maintenance of the project to fully protect salt marsh species due to habitat degradation and loss, disturbance and displacement, injury, and mortality the following shall be implemented:

1. **Fully Protected Species**. At project sites adjacent to salt marsh, a qualified biologist or biological monitor shall be present on site to survey and monitor for CDFW Fully Protected species, including salt marsh harvest mouse (SMHM), Ridgway's (California Clapper) rail (CCR), and California black rail (CBR), during a) all salt marsh vegetation removal; b) the construction of exclusion fencing; c) all work within 300 feet of tidal or pickleweed habitats. The qualified biologist or biological monitor shall have the authority to stop work if deemed necessary for any reason to protect these species, or any other special status species. Take or possession of these CDFW Fully Protected species is prohibited (Fish and Game Code Sections 3511and 4700) and no permits may be issued for such.

2. **High Tide Restrictions**. No project activities shall occur within 50 feet of suitable SMHM, CCR, or CBR habitat during extreme high tide events or when adjacent tidal marsh is flooded. Extreme high tides events are defined as a tide forecast of 6.5 feet or higher measured at the Golden Gate Bridge and adjusted to the timing of local high tides.

3. **Ridgway's (California Clapper)/Black Rail – Avoidance and Surveys:** Any project construction activities and ongoing maintenance within or adjacent to tidal marsh or suitable Ridgway's (California clapper) rail (CCR) or California black rail (CBR) habitat shall be avoided during rail breeding season (January 15 – August 31 for CCR, February 1 – August 31 for CBR) each year unless appropriately timed, yearly protocol level surveys are conducted and survey methodology and results are submitted to and accepted by CDFW. Surveys shall focus on suitable habitat that may be disturbed by project construction/maintenance activities during the breeding season to ensure that these species are not nesting in these locations. Surveys for rails shall be conducted following the rail survey protocol (and any subsequent revisions). As determined through consultation with the CDFW construction activities may be phased from the north to the south during the breeding season to acclimate rails to visual and acoustic disturbance from construction activities.

   If breeding rails are determined to be present, no activities, visual disturbance (direct line of sight) and/or an increase in the ambient noise level shall occur within 700 feet of areas where CCR and/or CBR have been detected during the breeding season. The buffer from all rail nests shall be monitored and maintained by a qualified biologist until determined to no longer be active. If surveys have not been conducted, all work shall be conducted 700 feet from CCR and/or CBR habitat during nesting season.

4. **Salt Marsh Harvest Mouse –** Vegetation. Prior to impacting salt marsh habitat, an approved qualified biologist or biological monitor, familiar with salt marsh harvest mouse (SMHM), shall walk through and inspect suitable habitat prior to vegetation removal and search for signs of harvest mice or other sensitive wildlife and plants. Following inspection, personnel, under the supervision of the qualified biologist, will disturb (e.g., flush) vegetation to force movement of SMHM into adjacent marsh areas. Flushing of vegetation will first occur in the center of the site then progress toward the two sides away from the open

water areas or in this case, away from impacted habitat. Immediately following vegetation flushing, personnel, under the supervision of the qualified biologist or biological monitor, will remove vegetation with hand tools (e.g. weed-eater, hoe, rake, trowel, shovel, grazing) so that vegetation is no taller than 2 inches. An approximately 2-foot wide de-vegetated buffer shall be created next to the project site.

Exclusion Fencing. After vegetation removal, a mouse proof barrier shall be placed two feet from the edge of vegetation to further reduce the likelihood of SMHM returning to the area prior to construction. The fence shall be made of a heavy plastic sheeting material that does not allow salt marsh harvest mice to pass through or climb, and the bottom shall be buried to a depth of 4 inches so that salt marsh harvest mouse cannot crawl under the fence. Fence height shall be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. All supports for the exclusion fencing shall be placed on the inside of the work area.

Inspections. The SMHM exclusion fencing shall remain in operating condition throughout the duration of all placement of fill events. The qualified biologist or biological monitor shall daily inspect the integrity of the exclusion fencing to ensure there are no gaps, tears, or damage. Maintenance of the fencing shall be conducted as needed. Any necessary repairs to the fencing shall be completed within 24 hours of the initial observance of the damage. Any mice found along or outside the fence shall be closely monitored until they move away from the project area.

BIO-4: To avoid impacts during construction activities due to habitat degradation and loss, disturbance and displacement, injury and mortality to special status species that may be present onsite or in the immediate vicinity including the western pond turtle (WPT) and California red-legged frog (CRLF), the following shall be implemented:

1. A qualified CDFW/USFWS-approved biologist shall conduct pre-construction surveys of all ground disturbance areas within suitable habitats in and adjacent to the project site to determine if special status species are present prior to the start of construction activities including remediation. Pre-construction surveys shall be conducted within 14 days prior to the initiation of grading activities in habitats where special status species have the potential to occur. If any special status species are found, the biologist shall contact the CDFW (and USFWS) to determine whether relocation and/or exclusion buffers are appropriate. If the CDFW approve of moving the animal, the biologist shall be allowed sufficient time to move the animal(s) from the work site before work activities begin.

2. Removal of vegetation cover shall occur using goat grazing. Vegetation removal in areas where goats have not grazed shall be conducted by motorized string trimmers with first pass high cut (at approximately mid-canopy) following by second pass low cut to ground level or no higher than 1 inch, and starting from areas away from wetlands/marsh habitat (northern and central portions of the site) and moving towards the wetland(s)/marsh habitat to be retained. Cut vegetation shall be removed from the exclusion area so that no cut vegetation remains once the exclusionary fence is installed. All non-native, invasive vegetation removed shall be discarded offsite and away from wetland areas to prevent reseeding.

3. Prior to the start of remediation/construction activities, exclusion fencing shall be installed along the work area boundary as determined by a qualified biologist. Exclusion fencing will act as a barrier to keep special status species from entering the work area. An exclusion fence plan shall be prepared by a qualified biologist and approved by regulatory agencies and may include the following as appropriate:

    1) The areas approved for grading and clearing shall be delineated with suitable fencing materials and dimensions (such as temporary high-visibility orange-colored fence or silt fence at least 4 feet in height, flagging, or other barriers and buried to a depth of at least 4 inches) to act as a barrier to keep special status species from entering. Signs shall be posted that clearly state that construction personnel and equipment shall not move outside of the marked area. The fencing shall be inspected and approved by a qualified biologist and maintained daily until project completion. The fencing shall be removed only when all construction equipment is removed from the site. No construction activities shall take place outside the delineated project site.

2) To avoid attracting predators, food-related trash shall be kept in closed containers and removed daily from the exclusion zone.

3) At the end of each day, all construction-related holes or trenches deeper than 1 foot shall be covered to prevent entrapment of special status species.

4. Prior to construction, a qualified biologist shall conduct training sessions to familiarize all construction personnel with identification of special status species and their habitat, general provisions and protections afforded by the Endangered Species Act, measures implemented to protect the species, and a review of project site boundaries. All personnel shall sign an affidavit acknowledging participation in the training and understanding species legal status, penalties for violations and all protective measures. Wallet sized card or fact sheet handouts shall be made available and carried to crews onsite.

5. Grading activities shall cease one half hour before sunset and shall not begin prior to one half hour before sunrise.

6. Grading activities shall be prohibited during rain events, within 24 hours of events projected to deliver more than 0.2 inches of rain, and within 24 hours after rain events exceeding 0.2 inches in measurable precipitation.

7. No grading shall occur after 0.5 inches of rain has occurred after November 1 in the year construction grading work is occurring unless one-week extension based on fair weather are approved by regulatory agencies (CDFW and RWQCB).

8. At project operation tenants shall be advised that dogs are to be kept on leash at all times within development boundaries when within 50 feet of the southern, eastern, and western portions of the site where wetland habitat will be preserved, and riparian habitat improved.

9. Trash receptacles shall be secured within enclosures that exclude mesopredators such as racoons and coyotes to avoid attracting and subsidizing these predators. Trash enclosure and receptacles onsite shall be routinely maintained.

10. Avoidance and minimization measures shall be employed prior to and during construction, as required and/or approved by the resource agencies (USFWS and CDFW), to protect special status species and sensitive habitats.

BIO-5: To ensure that onsite wetland to be preserved and offsite wetlands in the immediate site vicinity are retained, the following wetland preservation measures shall be implemented:

1. Grading activities shall be conducted during the dry season between May and October (with early start and late finish extension depending on weather conditions and approval by agencies).

2. Best Management Practices (BMP) and sediment runoff prevention shall be implemented at all times including straw wattles, hay bales, etc.), and periodic monitoring and testing of runoff water during construction.

3. Prevent restriction of natural flow of water into and out of existing wetlands by ensuring that appropriate inlets and outlets are available including post grading and development.

4. The habitat mitigation and monitoring plan (HMMP) shall include temporary and permanent impacts to wetlands to be preserved and a monitoring program to be approved by the CDFW and the RWQCB.

BIO-6: The loss of wetlands onsite (approximately 1.52 acres) shall be replaced through implementing the Habitat Mitigation and Monitoring Program (HMMP), which specifies constructing created offsite wetlands at a 2:1 ratio. Offsite wetlands shall create not less than 3.04 acres of wetlands in order to meet the 2:1 replacement ratio. Prior to filling wetlands onsite, permits to fill waters of the U.S. and waters of the State shall be obtained from regulatory agencies including the Army Corps of Engineers (Section 404 Clean Water Act),

the California Regional Water Quality Control Board (Section 401 Clean Water Act), and the California Department of Fish and Wildlife (1602 Fish and Game Code). Additional provisions may be imposed through the regulatory permit process by agencies and the project shall comply with all regulatory permit requirements. Alternatively, acceptable compensatory mitigation may be fulfilled by mitigation bank credits purchased from an agency approved bank or proponent sponsored created wetland onsite or offsite or a combination of both. While the HMMP sets forth a 2:1 mitigation ratio, created wetland procedures and monitoring, the Final HMMP must be accepted by the regulatory agencies and may be modified or additional requirements imposed. The Final HMMP will identify acceptable performance criteria for success and verified and approved by results of a monitoring program of 5 years. Proof of regulatory agency permits shall be provided to the City of Petaluma, demonstrating compliance with the Corps, RWQCB, and CDFW, in advance of issuance of a grading permit.

BIO-7: Prior to any tree removal or alteration, the applicant shall obtain approval from the City of Petaluma to implement a plan for tree preservation and replacement in accordance with the City's Tree Preservation Ordinance. Replacement of the one protected tree onsite (Coast Live Oak), shall be replaced at a one-to-one trunk diameter basis. Replacement trees shall be at the minimum 24-inch box size. Acceptable replacement for the removal of one 13" dbh coast live oak would be five 24" boxed live oaks and one 36" box live oak. Replacement trees shall be planted onsite in the same generally vicinity as the removed tree.

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; Tom Origer & Associates, Cultural Resources Study (Confidential) for the Baywood Village Apartments Project, Petaluma, Sonoma County, California, June 27, 2018; and Cultural Resources Letter Report (Confidential), prepared by Analytical Environmental Services, August 27, 2020.

Cultural Resources Setting

Petaluma's historic and cultural resources contribute to the city's unique character and identifiable sense of place. The city and adjacent areas contain 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 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.

The project site is relatively flat and consists of fill, stockpile material, and alluvial fan deposits that date to the Holocene Epoch. Soils on the project site belong to the Clear Lake and Reyes soil series, which formed under poorly drained conditions and are underlain by alluvium from basic and sedimentary sources. Areas containing such soils were historically used for growing oat vetch hay, oat hay for dairy and feed horses, and as dry-land pastures.

The closest source of water to the project site is the Petaluma River, located approximately 0.25 miles to the south. The project site was historically used by the Royal Tallow and Soap Company and has been subject to past ground disturbance.

Cultural Resources Study

A Cultural Resources Study for the project site was prepared by Tom Origer & Associates, dated June 27, 2018 (**Appendix F**). The study includes information gathered from the Northwest Information Center (NWIC) at Sonoma State University, examination of information available at the Tom Origer & Associates office, review of historic maps, a field survey, and correspondence with Native American tribes.

As detailed in the Cultural Resources Study, at the time of European settlement, the study area was included in the territory controlled by the Coast Miwok. The Coast Miwok settled in large, permanent villages which were distributed seasonal camps and task- specific sites. Primary village sites were occupied continually throughout the year and other sites were visited to procure particular resources that were especially abundant or available only during certain seasons. Sites often were situated near sources of fresh water and in ecotones where plant life and animal life were diverse and abundant.

Historically, the study area is within the Petaluma Rancho granted to Mariano Guadalupe Vallejo in 1834, 1843, and 1844. When granted, it consisted of 66,622 acres of land that extended from the Petaluma River on the west side to nearly Sonoma on the east side. Vallejo's adobe, more commonly known as the Petaluma adobe, is located approximately two miles northeast of the study area.

The project site has been previously studied as part of three other cultural resources studies. Additionally, two cultural resources studies were conducted adjacent to the project site and 23 cultural resources studies were conducted within one-half mile of the project site. Results of these studies indicate resources within one-half mile of the project site.

A review of historic maps identified buildings on the project site as early as 1914. The northwest portion of the project site was formerly the site of the Casa Grande Landfill, which was for municipal refuse from the late 1940's to 1960. From 1960 until its required closure by the State Integrated Waste Management Board, the landfill was used exclusively by the City for disposal of demolition debris, street cleanings and yard waste. The project site was also the former location of the Royal Tallow and Soap Plant which was established in 1941. The plant rendered animal fat to produce soap and candles. In 1964 the plant was sold and became a transfer station in the 1970's, which was closed in 1994, and ultimately demolished in 2008.

On May 29, 2018 a field survey was conducted for the entire site in transects spaced 10-15 meters apart. During the field survey, glass and ceramics were observed in the northwest portion of the project site, which are likely remnants of the landfill and not considered an historical resource. Additionally, a large stockpile consisting of building debris from the former Royal Tallow and Soap Plant was observed onsite. Two auger holes were dug by hand to examine subsurface conditions. Results from the first auger hole identified fill soil with glass, ceramics, and gravels within the northwestern portion of the project site; it is likely that the glass and ceramics are remnants of the former landfill. Dry black clay, and wet black and grey clay were found in the second auger hole, which is located southeast of the existing debris pile. No historic or archaeological resources were identified during the field survey or within the two auger holes.

The Native American Heritage Commission (NAHC) was contacted seeking information from the sacred lands files as well as names of Native American Individuals and groups that should be contacted about the project. On May 29, 2018 the NAHC responded stating that a review of their sacred lands file identified Sacred Sites in the project area and recommended contacting the Federated Indians of Graton Rancheria (FIGR) for more information. Additionally, a list of recommended contacts was provided. On May 30, 3018 a letter was sent to all groups identified by the NAHC. Responses were received from FIGR stating that they would review the project and respond within ten business days, and the Lytton Rancheria of California stated that they would be consulting with the City of Petaluma on the project. No other responses were received as of June 27, 2018.

As further described in Section 4.18 Tribal Cultural Resources, the City of Petaluma notified the FIGR Tribe in accordance with AB 52 and entered into consultation. The Lytton Rancheria Tribe was contacted in July of 2019 to clarify interest in receiving AB 52 notification from the City of Petaluma[8]. On July 23, 2020, Brenda Tomaras, responded that "Lytton is not requesting AB 52 notification from the City of Petaluma."

Additionally, a Cultural Resources Letter Report (**Appendix G**) was prepared for the property where the offsite wetland mitigation is proposed. Analytical Environmental Services (AES) conducted a cultural resources

[8] Personal communication with Brenda Tomaras, legal counsel for the Lytton Rancheria Tribe, July 2019.

investigation of the wetland mitigation area including 11.2 acres located immediately east of Adobe Creek, approximately 1.8 miles north of the project site. The investigation consisted of background research and a field survey of the area of potential effects (APE). The wetland mitigation is subject to a Clean Water Act 4040 permit from the Army Corp of Engineers and requires compliance with provision of Section 106 of the National Historic Preservation Act.

The Cultural Resources Letter Report concludes that neither the record search not the field survey identifies potential cultural resources within the APR, however two prehistoric archaeological sites were previously recorded. The presence of Adobe Creek and past record of prehistoric sites indicates an elevated potential for the offsite wetland mitigation site to contain cultural resources.

Cultural Resources Impact Analysis

4.5 (a) (Historical Resource) No Impact: The project site is not located within a designated historic district and does not contain any historically significant above ground resources, nor does it constitute a historic site. The project site is previously disturbed and undeveloped; a mobile home is the only existing built structure onsite. Further, during the field survey, no historical resources were identified. In the absence of any historic resources within the subject property, the proposed project would not directly or indirectly affect the significance of a historical resource. Therefore, the project would have no impacts due to a change in the significance of a historical resource.

4.5 (b) (Archaeological Resources) Less Than Significant with Mitigation: The potential for uncovering buried archaeological deposits is dependent on many factors including landform age, proximity to water, and slope. Buried prehistoric archaeological sites are found in or beneath Holocene-age landform deposits. Although no archaeological resources were identified during the field survey or within the auger holes onsite, the Cultural Resources Study concluded that there is a high probability of discovering buried prehistoric archaeological sites within the project site during ground disturbing activities for the following reasons: 1) the project site is comprised of Holocene alluvial fan and mud deposits; 2) the Petaluma River is located within 0.25 miles to the southern end of the project site; 3) the study area was included in the territory controlled by the Coast Miwok; and 4) prior cultural resources studies have identified cultural resources within ½ mile of the study area. As such, the project site has the potential to contain buried cultural resources, which if present could be adversely impacted during remediation and construction activities.

The offsite wetland mitigation area is located on a portion of the Adobe Golf Course and is known is known to contain prehistoric archaeological resources. Resources present at the offsite wetland mitigation area have likely been previously disturbed from construction and operation of the Golf Course. Although the offsite wetland concept plan has been designed to avoid cultural resources by establishing a 50-foot buffer from previously recorded resources, construction of offsite wetlands has the potential to result in impacts to cultural resources if not properly protected.

In order to avoid inadvertently causing a substantial adverse change in the significance of an archaeological resource (prehistoric or historic-era), **Mitigation Measure CUL-1** shall be implemented. CUL-1 requires that the applicant retain the services of a professional archeologist who meets the Secretary of the Interior's Professional Standards for Archaeology to monitor onsite and offsite earth-work during initial stages of construction and throughout ground distributing activities, as determined to be appropriate by the archeological monitor. Implementation of CUL-1 will ensure that in the event of accidental discovery, the potential for the project to adversely impact or result in a change to the significance of archaeological resources would be reduced to less than significant levels.

In the event that potential archeological resources are unearthed onsite, the contractor/applicant shall proceed pursuant to **Mitigation Measure CUL-2**, which requires construction activity to halt within 100 feet of the find until a qualified professional can evaluate the potential significance of the resource. Should any features be identified during construction, mitigation requires compliance with PRC §21083.2 and CEQA Guidelines §15064.5. With implementation of CUL-1 and CUL-2, the project's potential impacts to archaeological resources onsite will be reduced to less than significant levels.

Mitigation Measure CUL-3 requires monitoring by a qualified professional archaeologist and a representative of the Federated Indians of Graton during grading and groundwork activities.

4.5 (c) (Human Remains) Less Than Significant Impact: No evidence suggests that human remains have been interred within the boundaries of the project site. However, in the event that human remains are discovered during construction activities, all requirements of state law shall be duly complied with including the immediate cessation of ground disturbing activities near or in any area potentially overlying adjacent human remains. These requirements are imposed by the city through a condition of approval noting the statutory requirements of California Health and Safety Code §7050.5 and the California Native American Graves Protection Act (NAGPRA). Accordingly, the project would have a less than significant impact under this criterion.

Mitigation Measures:

CUL-1: The applicant shall retain the services of a professional archaeologist who meets the Secretary of the Interior's Standards Professional Qualifications for Archaeology and accepted by the Federated Indians of Graton to monitor ground disturbing activities for the inadvertent discovery of archaeological resources (prehistoric and historic-era). If a potentially significant archaeological resource is encountered the archaeologist shall be provided sufficient time to evaluate the resource and make treatment recommendations in accordance with CEQA Guidelines §15064.5.

CUL-2: If during the course of ground disturbing activities (onsite and offsite), including, but not limited to excavation, grading and construction, a potentially significant archaeological 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 cultural resource specialist to adequately evaluate and determine significance of the discovered resource and provide treatment recommendations. Pre-historic archaeological site indicators include obsidian and chert flakes, chipped stone tools, grinding and mashing implements, bedrock outcrops and boulders with mortar cups, locally darkened midden soils, 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). Should a significant archaeological resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Work shall not proceed in the vicinity of a find until all components of the resource mitigation plan have been complied with to the satisfaction of the City and the Federated Indians of Graton Rancheria.

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: City of Petaluma General Plan 2025 and EIR; BAAQMD 2017 Bay Area Clean Air Plan; Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019; Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared by the Sonoma County Regional Climate Protection Authority, July 2016; City of Petaluma Climate Emergency Resolution, March 2019; Riverview Apartment Title 24 and CalGreen Element, prepared by Project Applicant, received September 2020; 2019 California Green Building Standards Code, effective January 1, 2020; and California Energy Commission various publications.

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 consumption is measured using the British

Thermal Unit (BTU). BTU is the amount of energy that is required to raise the temperature of one pound of water by one-degree Fahrenheit.

To address energy efficiency at the State level, the California Energy Commission adopted the 2019 Building Energy Efficiency Standards (Title 24, Part 6 of the CCR) in May 2018, which take effect on January 1, 2020. The new standards focus on four key areas: smart residential photovoltaic systems; updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); residential and nonresidential ventilation requirements; and nonresidential lighting requirements. The building standards require that solar photovoltaic systems be installed on single-family residences, multi-family buildings, hotels/motels, and non-residential buildings constructed in 2020 and beyond. In 2020, the City of Petaluma adopted the Tier 2 CalGreen Standards to meet higher levels of building energy efficiency through the adoption of Ordinance No. 2705 N.C.S.

California Energy Consumption

According to the California Energy Commission (CEC), total system electric generation for California in 2018 was 285,488 gigawatt-hours (GWh)[9], 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 things including generating electricity for cooking and heating, as well as an alternative transportation fuel.[10] In 2018, the CEC reports Sonoma County had a total gas consumption of 111 million of therms.

According to the CEC, gasoline has remained the dominant fuel within the transportation sector, with diesel fuel and aviation fuels following. In 2015, California consumed approximately 15 billion gallons of gasoline and approximately 4.2 billion gallons of diesel fuel.[11] An increasing amount of electricity is being used for transportation energy, which is chiefly 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 electricity from Sonoma Clean Power. As of 2018 Sonoma Clean Power generated 39% less greenhouse gas emissions as compared to PG&E's energy portfolio.[12]

City of Petaluma

The City of Petaluma contains energy resources that encompass a variety of fuels that provide lighting for residential and commercial uses, provide heating and cooling for indoor environments, and aid in the operation of transportation systems. 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 City of Petaluma's largest energy consumer is the transportation sector.

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9 *California Energy Commission, Total System Electric Generation (2018) https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html, accessed December 23, 2019*

10 *California Energy Commission, Supply and Demand of Natural Gas in California https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html, accessed December 23, 2019*

11 California Energy Commission, Transportation Energy, https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy, Accessed July 3, 2019.

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

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.

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

- Policy 4-P-9: Require a percentage of parking spaces in large parking lots or garages to provide electrical vehicle charging stations.

- 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 passive solar building design and landscaping conducive to passive solar energy use for both residential and commercial uses, i.e., building orientation in a south to southeast direction, encourage planting of deciduous trees on west sides of structures, landscaping with drought resistant species, and use of groundcovers rather than pavement to reduce heat reflection.

- Policy 4-P-19D: Encourage use and development of renewable or nontraditional sources of energy. Consider the feasibility of requiring a percentage of new development to meet 50% of their energy needs from fossil fuel alternatives (e.g. solar panels, etc.).

The City of Petaluma has also taken steps to address GHG emissions within its city limits, which in turn assist in reducing energy consumption (see Section 4.8 Greenhouse Gas Emissions).

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

On December 10, 2020 the City's Climate Action Commission approved the Climate Emergency Framework and forwarded a recommendation for its adoption to the City Council. On January 11, 2021, the City Council and the Climate Action Commission held a joint hearing which resulted in adoption of the Framework. The Framework is intended to guide the City's ongoing response to and discussion about the climate crisis and guides and informs subsequent policies and implementation strategies. The principles identified in the Framework establish Petaluma's shared vision of a healthy, sustainable, and equitable community and advances the City's objective of achieving carbon neutrality by 2030.

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 traffic. However, consumption of such resources would be temporary and would cease upon the completion of construction. As stated in Section 4.3 Air Quality, the City of Petaluma will impose BAAQMD best management practices as described by Measure AQ-1, which will 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. Further Mitigation Measure AQ-2 requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 60 percent reduction, or more, in particulate matter exhaust emissions. Implementation of AQ-1 and

AQ-2 will minimize energy used during construction activities. As such, construction-related energy impacts would be less than significant.

Long-term operational energy use associated with the project includes electricity and natural gas consumption associated with the new building (e.g., lighting, electronics, heating, air conditioning, refrigeration), energy consumption related to water usage and solid waste disposal, and fuel consumption (gasoline and diesel) by vehicles associated with the project through the generation of new vehicle trips by residents, workers, and visitors.

Electricity and natural gas consumption at project operation are estimated through CalEEMod as part of the Air Quality and GHG Analysis, prepared by Illingworth & Rodkin. Electricity consumption is estimated to be 1,742,552 kWh/year (apartment buildings + parking). Natural gas consumption is estimated to be 2,583,200 kBTU/year (apartment buildings). At operation, the proposed project would result in the consumption of petroleum-fuel related to vehicular travel to and from the project site.

The City of Petaluma requires that all new development demonstrate compliance with California Green Building Standards Code (CalGreen) Tier 2 Building standards (Title 24, Part 6 of the CCR), which generally achieve energy efficiency approximately 30% beyond Title 24 2008 standards, as well as a construction waste diversion rate of 75%. 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 structures onsite will be required to demonstrate compliance with CalGreen Tier 2 standards.

Features and landscaping have been incorporated into the design of the project to achieve energy conservation. For example, trees are proposed along the perimeter of each building to provide shading and minimize energy requirements. In addition, the majority of landscaping includes drought resistant species (e.g., approximately 65 percent has a low water use). Furthermore, solar photovoltaic systems will be installed on rooftops of new buildings and on carports with the intent of generating solar power at a rate equal to the energy demand of new buildings.

At operation, energy would be consumed through daily residential activities, the delivery of water for potable and irrigation purposes, solid waste management, and daily vehicle use by residents, workers, and visitors. 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, natural gas, and water use) in compliance with CalGreen, the General Plan, and the Petaluma IZO to minimize energy consumption. 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: As previously described, the proposed project would have a less than significant impact due to a conflict with the 2017 CAP since the 2017 CAP is based on land use and growth projections consistent with those used in the Petaluma General Plan and the project's proposed density is 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 and no impact will result.

In December 2007, the CEC prepared the State Alternative Fuels Plan in partnership with the CARB and in consultation with the other state, federal, and local agencies. 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. As a multi-family residential project that would install energy conservation features, the proposed project would not conflict with or obstruct implementation of the State Alternative Fuels Plan and impacts would be less than significant.[13]

[13] California Energy Commission, Final Adopted State Alternative Fuels Plan, Adopted December 2007, https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF, Accessed July 9, 2019.

The project is subject to the goals, policies and programs in the General Plan related to energy conservation. The project is required to comply with Policy 4-P-9, which specifies that a percentage of parking spaces in large parking lots or garages provide electrical vehicle charging stations. All private garages (242) include plumbing for future installation of electric vehicle charging equipment. A total of 27 uncovered parking spaces will be EV equipped, including 4 ADA van accessible spaces (Civil Sheet C-4). Out of the 514 parking spaces provided onsite, the project provides 242 garage spaces as EV Capable, and 27 uncovered parking spaces equipped with EV charging stations (EV Installed). As such, the project is providing approximately 22% percent of the uncovered parking spaces (122 stalls) with EV charging stations. As such, the project complies with the 2019 CalGreen Building Code by meeting the requirement to provide at least 10% of stalls as EV capable and exceeding the Tier 2 standard of providing 20% EV capable. Therefore, the project will have less than significant impacts due to a conflict with Policy 4-P-9.

Policy 4-P-15D requires that new residential uses incorporate passive solar building design and landscaping conducive to passive solar energy use. The project complies with this policy by planting trees along the perimeter of each building. In addition, the majority of landscaping includes drought resistant species (e.g., approximately 65 percent has a low water use). Policy 4-P-19D encourages the use of renewable or nontraditional sources of energy (e.g., solar panels) in new development. The project intends to provide onsite solar with an energy capacity equivalent to the demands generated by new buildings onsite. Furthermore, the project will comply with Title 24 CalGreen including thermal envelop standards, efficient heat pump systems, air filtration and ventilation for improved indoor air quality, energy efficient windows, and energy star appliances. Therefore, the project complies with General Plan policies 4-P-15D and 4-P-19D.

The Petaluma General Plan Goal 4-G-4 requires the city to reduce its dependency on non-renewable energy sources in existing and proposed development. Policy 4-P-18 establishes several approaches to lower energy consumption in the city, 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 achieves energy efficiency 30% greater than Title 24 building standards.

As a multi-family residential development that would be developed pursuant 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 impacts would be less than significant.

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?	☐	☒	☐	☐
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: City of Petaluma General Plan 2025 and EIR; Reese & Associates, Soil Engineering Consultation Report, July 2, 2018, May 3, 2011, and June 6, 2011; Giblin Associates, Soil Investigation Report, May 16, 2008; Memorandum on Waste Management, Tree Inventory & Bay Mud Submittal, prepared by Steven J. Lafranchi & Associates, Inc, September 18, 2020; and California Building Code of Regulations.

Geology and Soils Setting

The City of Petaluma lies within a seismically active region classified by the California Building Code (CBC) as Seismic Zone 4 where the most stringent CBC standards apply. Geologic hazards within the City of Petaluma are largely related to seismic ground shaking and associated effects such as liquefaction, ground failure, and seismically induced landslides. Faults in the vicinity of Petaluma are capable of generating large earthquakes that could produce strong to violent ground shaking. The Rodgers Creek Fault is located less than 5 miles to the northeast of the City (**Figure B-2** in **Appendix B**). Although branches of the Rodgers Creek Fault closest to the City are not historically active (within the last 200 years), they do show evidence of activity during the last 11,000 years, which is a relatively short time in terms of geologic activity.

Expansive soils and soil erosion are also of general concern within the City of Petaluma. Expansive soil materials occur in the substrate of the clays and clayey loams in the City and represent a potential geologic hazard. Without proper geotechnical considerations, buildings, utilities, and roads can be damaged by expansive soils due to gradual cracking, settling, and weakening. These effects create safety concerns and risk of financial loss. To reduce the risks associated with expansive soils, the City's Building Code, Chapter 18, requires that each construction site, intended for human occupancy, that is suspected of containing expansive soils be investigated and the soils be treated to eliminate the hazard.

A Soil Investigation Report was prepared for the project site by Giblin Associates, dated May 16, 2008 (**Appendix H**)**.** Subsequent soil investigations were performed by Reese & Associates in 2011 and most recently in 2018 (**Appendix I**). Based on site observations and a review of the previous geotechnical reports prepared for the site, Reese & Associates found that the recommendations contained within the previously prepared reports would continue to be applicable for the proposed project. Based on a review of available geologic maps and knowledge of the subsurface conditions at the site, Reese & Associates classified the site as Site Class D, in accordance with "Chapter 20 of the American Society of Civil Engineers (ASCE) Publication ASCE 7-10."

To provide an understanding of the existing soils conditions on the project site, below is a summary of the findings and recommendations in the Soil Investigation Report prepared by Giblin Associates on May 16, 2008:

- The site is generally underlain by discontinuous layers of fill materials and natural clay, silt, and clayey and silty sand.
- Soils on the site exhibit a moderate to high expansion potential.
- The risk of liquefaction is considered low because the sandy soils encountered on the project site are sufficiently dense and contain a significant quantity of soil fines.

- The bay mud deposits encountered on the site exhibit low strength and could be subject to significant settlements under new loading conditions.

- The locally occurring weak, upper natural soils, and the existing fills are not suitable for new fill, foundation, or slab support in their present condition. It will be necessary to remove the weak upper natural soils and the existing fills and replace the materials with property compacted fill.

- Moderately to highly expansive clayey soils should not be used within the upper 30 inches of the building envelope.

Two areas of the site are underlain by Bay Mud, which are susceptible to subsidence under heavy loads. Bay Mud is alluvial sediment composed of highly compressible plastic clay and silty clay with an elevated water content. Bay Mud deposits on the project site are located in the southwest most corner and the southeastern most corner. As further described below, recommendations provided in the Soil Investigation and Engineering Report and the Memo issued by Steven J. Lafranchi & Associates, Inc, dated September 18, 2020 address the geological conditions onsite associated with Bay Mud.

Geology and Soils Impact Discussion

4.7 (a.i.) (Faults) No Impact: The project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known active faults directly traverse the site (**Figure B-3** in **Appendix B**). Therefore, 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.

4.7 (a.ii) (Ground-Shaking) Less Than Significant Impact: As is the case throughout the City's UGB, development has the potential to expose people or structures to substantial adverse effects from strong seismic ground shaking. The project site is located within Zone 8 – Very Strong of the Mercalli Intensity Shaking Severity Level (**Figure B-4** in **Appendix B**). In the event of a magnitude 7.1 earthquake, the project area and the City of Petaluma could experience severe ground shaking that could damage buildings, structures, infrastructure, and result in the risk of loss of life or property.

The most notable active faults in the vicinity of the site are those associated with the: Rodgers Creek fault zone, located less than 5 miles east of the site; San Andreas fault zone, located about 15 miles west of the site; West Napa fault zone, located about 20 miles east of the site; and, the Hayward fault zone, located about 20 miles southeast of the site. The epicenter for the August 14, 2014 earthquake on the West Napa Fault is located about 18 miles east of the site. Based on this information, the potential for the site to experience significant ground shaking from future earthquakes is relatively high.

Conformance with Title 24 (California Building Code Standards) and the Seismic Hazards Mapping Act as required by the California Building Code of regulations will assure that potential impacts from seismic shaking are less than significant. Mandatory compliance 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.

Based on the subsurface conditions and close proximity to the Rodgers Creek and San Andreas Faults, the Soil Engineering Consultation Report recommends that a CBC soil Type of S_D (stiff soil profile) be utilized to inform design specifications and to ensure that potential impacts from seismic activity remain at less than significant levels. Site Class D requirements include recommendations for foundation types, appropriate structural systems, and ground stabilization strategies, which are also discussed in the Soil Investigation Report (Giblin Associates) and Soil Engineering Consultation Report (Reese & Associates).

Adherence to Class D specifications for ground motion parameters, mandatory compliance with all other related building code standards, and conformance with the recommendations set forth in the Soil Investigation Report (Giblin Associates) and Soil Engineering Consultation Report (Reese & Associates), will ensure that the proposed apartment buildings and associated improvements onsite would not expose people or structures to substantial adverse effects, including the risk of loss, injury, or death as a result of seismic activity. Therefore, potential impacts from ground shaking will have a less than significant impact.

4.7 (a.iii) (Seismic-Related Ground Failure/Liquefaction) Less Than Significant Impact with Mitigation: Liquefaction is the rapid transformation of saturated, loosely packed, fine-grained sediment to a fluid like state as a result of ground shaking. Potential for liquefaction is most pronounced when the groundwater table is shallow (typically less than 50 feet below the surface) and the liquefaction potential becomes increasingly heightened as the water table becomes shallower. The Petaluma water table is generally found 10-20 feet below the surface. Figure 3.7-5 of the General Plan EIR indicates that much of the UGB falls within a "Moderate Liquefaction Hazard Level" with the area abutting the Petaluma River exhibiting a "High to Very High Liquefaction Hazard Level". Based on the Soil Investigation Report, groundwater was encountered at depths of approximately 4 to 15 feet below the ground surface and is expected to vary seasonally.

The liquefaction risk on the subject property ranges from low (Soil Investigation Report) to moderate (**Figure B-5** in **Appendix B**). In order to ensure that the project is able to adequately withstand liquefaction settlement, the project shall comply with **Mitigation Measure GEO-1**, which requires that the project adhere to the earthwork and foundation design recommendations outlined in the Soil Investigation Report (Giblin Associates) and Soil Engineering Consultation Report (Reese & Associates). With the implementation of **Mitigation Measure GEO-1**, potential impacts relating to seismic-related ground failure will be reduced to less than significant levels.

4.7 (a.iv) (Landslide) No Impact: The potential for a risk of landslide is dictated by several factors including precipitation conditions, soil types, steepness of slope, vegetation, seismic conditions, and level of human disturbance. When certain conditions are present landslides can be triggered as a result of seismic activity. Landslides have been known to occur in Sonoma County, but 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 located outside of the Landslide Complex (areas of previous ground failure) as identified in Figure 3.7-5 of the Petaluma General Plan 2025.The topography of the site lacks steep slopes and is generally flat with elevations ranging from 8 to 20 feet above sea level. Based on the negligible slope of the site and the fact that the project will be located a sufficient distance from any sloped terrain, there will be no impacts related to landslides or slope failure.

4.7 (b) (Erosion) Less Than Significant Impact with Mitigation: Development of the project will require site preparation and grading activities that will potentially result in soil erosion or the loss of topsoil if not properly controlled. Water and wind serve as the primary catalyst of soil erosion, with steeper slopes intensifying the effects. Vegetation removal as part of the site preparation process as well as grading and ground disturbing activities associated with development can heighten the potential for and accelerate soil erosion.

All earthwork, grading, trenching, backfilling, and compaction activities associated with the project are subject to the City of Petaluma's Grading and Erosion Control Ordinance. Similarly, these activities are also covered by the mandatory requirements of the National Pollution Discharge Elimination System (NPDES) General Permit which is implemented through a Storm Water Pollution Prevention Plan (SWPPP).

Grading activities and ground disturbance on the project site including removal of undocumented fill has the potential to result in soil erosion if not properly controlled. In order to ensure that potential impacts related to soil erosion are reduced to levels below significant, **Mitigation Measure GEO-2** shall be implemented. Measure GEO-2 requires that the applicant submit an erosion control plan that identifies measures to be implemented during all construction activities including remediation and establishes provisions for grading activity during the rainy season. With implementation of GEO-2, impacts associated with soil erosion will be reduced to less than significant levels.

4.7 (c) (Unstable Geologic Unit) Less Than Significant with Mitigation: Lateral spreading, lurching and associated ground cracking can occur during strong ground shaking. Lurching and ground cracking generally occurs along the tops of slopes where stiff soils are underlain by soft deposits or along steep channel banks whereas lateral spreading generally occurs where liquefiable deposits flow towards unconfined spaces, such as channel banks, during an earthquake. The proposed development would be set back approximately 0.25 mile from the Petaluma River top-of-bank; therefore, development would not be located along any steep channel banks.

As stated in the Soil Investigation Report, the locally occurring weak, upper natural soils, and the existing fills are not suitable for new fill, foundation, or slab support in their present condition. As such, the Soil Investigation Report concludes that it will be necessary to remove the weak upper natural soils and the existing fills and replace the materials as property compacted fill.

As stated in the Soil Investigation Report, the bay mud deposits encountered on the site exhibit low strength and could be subject to significant settlements under new loading conditions. The amount and rate of settlement are influenced by several factors, including past loading history, thickness and weight of planned fills, new building loads and variations in the thickness and compressibility of the bay mud soils. Generally, maximum settlements will occur in areas of thickest new fills or heaviest structural loads overlying thickest bay mud deposits. The Soil Investigation Report also noted that the weak, surface and near surface natural soils that exhibit relatively low strength on the project site, can also undergo considerable strength loss and settlement when saturated under load.

Bay mud deposits on the project site are limited to the southwestern and southeastern most portion. In the southeastern portion where bay mud is present, wetlands will be retained and improvements include the recreational path, retaining wall and surface parking. In the southeastern portion where bay muds are present wetlands will also be retained, surface parking introduced along with a retaining wall and apartment buildings. Bay muds have low strength and high expansive potential which can cause subsidence and differential settlement if not properly addressed, which could result in potential impacts due to an unstable geological unit. The project will address onsite fills and bay mud through soil treatment techniques which may include deep soil mixing, placement of lightweight fill, surcharge loading, and/or structural systems and foundations designed to accommodate settlement.

In order to ensure that the project is able to adequately withstand settlement under new loading conditions, the project shall comply with **Mitigation Measure GEO-1**, which requires that the project adhere to the earthwork and foundation design recommendations outlined in the Soil Investigation Report (Giblin Associates) and Soil Engineering Consultation Report (Reese & Associates). With the implementation of **Mitigation Measure GEO-1**, potential impacts relating to unstable geologic units will be reduced to less than significant levels.

4.7 (d) (Expansive Soils) Less Than Significant with Mitigation: Soil expansion occurs when clay particles interact with water causing seasonal volume changes in the soil matrix. The clay soil swells when saturated and then contracts when dried. This phenomenon generally decreases in magnitude with increasing confinement pressures at increasing depths. These volume changes may damage lightly loaded foundations, concrete slabs, pavements, retaining walls and other improvements. Expansive soils also cause soil creep on sloping ground.

As described in the Soil Investigation Report, soils on the site exhibit a moderate to high expansion potential. The Soil Investigation Report recommends that soil moisture content be controlled to reduce the future shrink and swell of expansive soils. One way to accomplish this would be to condition the soils to cause pre-swelling and then cover the soils with a blanket of approved on-site or imported fill of low expansion potential. An alternative method, such as lime-treatment, could also be considered. As such, in order to reduce potential impacts due to the presence of expansive soils, **Mitigation Measure GEO-1**, shall be implemented, which requires adherence to the recommendations presented in the Soil Investigation Report related to site preparation, grading, and excavation to mitigate the effect of expansive clay on the planned improvements. Adherence to **Mitigation Measure GEO-1**, including any other recommendations derived through mandatory conformance with Title 24 (California Building Code Standards), will ensure the project results in a less than significant impact from expansive soils.

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) (Unique Paleontological Resource) 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. Moreover, the project site has experienced ground disturbance, as it was formerly occupied by Royal Tallow & Soap Company, and the slabs, foundations and underground vaults/tanks at the site were removed. As such, there is limited potential for paleontological resources to be present on the project site.

Nevertheless, potential remains for the discovery of buried paleontological resources. Accordingly, a condition of approval will be imposed on the project that requires construction activity to halt in the event of accidental discovery during grading activities in accordance with CEQA §21083.2 and CEQA Guidelines §15064.5. 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.

Mitigation Measures:

GEO-1. As determined by the City Engineer and/or Chief Building Official, all recommendations outlined in the Soil Investigation Report dated May 16, 2008, prepared for the subject property by Giblin Associates, and all recommendations outlined in the Soil Engineering Consultation Report dated July 2, 2018, prepared by Reese & Associates, including but not limited to, site preparation and grading, fill and bay mud treatment, excavation, seismic design, and foundation design, are herein incorporated by reference and shall be adhered to in order to ensure that appropriate construction measures are incorporated into the design of the project. Prior to issuance of grading permit, the applicant shall provide to the City's acceptance a final grading plan, demonstrating compliance with recommendations outline in the Soil construction plans, and building plans shall demonstrate that recommendations set forth in the geotechnical reports have been incorporated into the design of the project.

Nothing in this mitigation measure shall preclude the City Engineer and/or Chief Building Official from requiring additional information to determine compliance with applicable standards. The geotechnical engineer shall inspect the construction work and shall certify to the City, prior to issuance of a certificate of occupancy that the improvements have been constructed in accordance with the geotechnical specifications.

GEO-2. Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City Engineer for review. 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. Plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during all construction activity.

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: City of Petaluma General Plan 2025 and EIR; Bay Area Air Quality Management District Bay Area 2017 Clean Air Plan; Bay Area Air Quality Management District, CEQA Guidelines, May 2017; Sonoma County Regional Climate Action Plan 2020 and Beyond, prepared July 2016; Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019; and City of Petaluma Climate Emergency Resolution, adopted May 6, 2019.

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 (CO2), nitrous oxide (N2O), methane (CH3), 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 and an 80 percent reduction below 1990 levels by 2050. In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The 2017 Climate Change Scoping Plan identifies how the State can reach the 2030 climate target to reduce GHG emissions by 40 percent from 1990 levels, as set by Executive Order B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan also describes how the State can substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

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 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 equivalence ($MTCO_2e$). Separate regional efforts implemented within Petaluma by entities such as the Regional Climate Protection Authority, 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 Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines (May 2017) recommended a GHG threshold of 1,100 metric tons (MT) of CO_2 equivalent per year (CO2e/year) or 4.6 MT/year per service population (residents/employees) as a numeric emissions level, below which a project's contribution to global climate change would be considered less than significant. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project will occur post 2020, as such a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, a "Substantial Progress" efficiency metric of 2.8 MT CO2e/year/service population and a bright-line threshold of 660 MT CO2e/year based on the GHG reduction goals of Executive Order B-30-15 is applied to identify potentially significant impacts.

Greenhouse Gas Impact Analysis

4.8 (a) (Significant GHG Emissions) Less Than Significant Impact: Construction of the project will result in GHG emissions from heavy-duty construction equipment, worker trips, and material delivery and hauling. Construction GHG emissions are short-term and will cease once construction is complete. GHG emissions associated with construction were estimated as part of the Air Quality and Greenhouse Gas Assessment (**Appendix C**) that was prepared for the subject project. GHG emissions are projected to be 1,256 MT of CO2e over the estimated 18-month construction period. The BAAQMD has not established thresholds of significance for GHG emissions resulting from construction activities. Rather, BAAQMD encourages the incorporation of best management practices to reduce GHG emissions during construction. As stated under Section 4.3 Air Quality, the project will be required to implement BAAQMD's best management practices during construction (AQ-1). Further AQ-2 will be implemented, which requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 60 percent reduction, or more, in particulate matter exhaust emissions. Accordingly, GHG emissions generated from the project's construction activities will be minimized and impacts are considered to be less than significant.

Operational Emissions

Before conducting a detailed estimation of whether a project would have a potential for exceeding the GHG emission thresholds, the BAAQMD recommends applying screening criteria based on development type (**Table 8**). The screening criteria were derived using default assumptions as well as modeling for indirect emissions (e.g., electric generation, solid waste, and water use). Projects below the screening criteria are considered to emit GHG emissions below the threshold of significance.

Table 8: BAAQMD Greenhouse Gas Screening Results

Land Use Type	Project	BAAQMD Screen Level	Above Screening Level?
Apartment, Mid-Rise	264 units	87 units	Yes

Source: Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2017, Table 3-1, pg. 3-2.

As the project unit count exceeds the BAAQMD screening level, CalEEMod, with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project.

As shown in **Table 9**, annual net emissions resulting from operation of the proposed project are predicted to be 2,630 MT of CO2e (assuming full buildout in the year 2021) and 2,165 MT of CO2e in the year 2030. The 2030 emissions exceed the 2030 "Substantial Progress" threshold of 660 MT of CO2e/year. However, the Service Population Emissions would 2.7 MT/capita for the year 2030 and does not exceed the "Substantial Progress" efficiency metric of 2.8 MT CO2e/year/service population. Therefore, the project would have a less-than-significant impact regarding GHG emissions at project operation.

It should be noted that the Greenhouse Gas Assessment assumed the construction of 299 residential units and a population of 814. However, the project is currently proposed as containing 264 residential units, which is a 12 percent reduction in the total number of units, as was analyzed in the GHG Assessment. Similarly, assuming a

12 percent reduction in total emissions, the proposed project total emissions in 2021 are estimated to be 2,314 MT of CO2e/year and the proposed project total emissions in 2030 are estimated to be 1,905 MT of CO2e/year. Assuming 2.75 persons[14] per household, the projected population increase from the proposed project would be approximately 726 persons. Using the updated population projections, the Service Population Emissions would be 3.2 in 2021 and 2.6 in 2030. As such, with the updated number of residential units and population projections, the project does not exceed the 2030 service population significance threshold. Therefore, impacts due to generation and emission of GHGs would be less than significant.

Table 9: Annual Greenhouse Gas Emissions (Metric Tons per Year)

Source Category	Proposed Project (2021)	Proposed Project (2030)
Area	16	16
Energy Consumption	370	370
Mobile	2,143	1,678
Solid Waste Generation	69	69
Water Usage	32	32
Total	2,630[1]	2,165[1]
Significance Threshold	***1,100 MT CO2e/year***	***660 MT CO2e/year***
Service Population Emissions[2]	3.6	2.7
Significance Threshold	***4.6 in 2020***	***2.8 in 2030***
Significant (Exceed Both)?	***No***	***No***

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, February 1, 2019.

[1] The total greenhouse gas emissions are based on 299 residential units.

[2] The project service population efficiency rate is based on the number of future residents. The Greenhouse Gas Assessment assumed 299 residential units, an average of 2.72 persons per household, and a total of 814 future residents. At 264 units, the total GHG emission level is estimated to be 1,911 MTCO2/yr the population approximately 718, and the service population emissions approximately 2.66, which is below the 2030 significance threshold.

4.8 (b) (GHG Plan Conflict) Less Than Significant Impact: The City of Petaluma has adopted GHG emission reduction policies and programs as part of the General Plan 2025. These policies and programs address energy efficiency, transportation, conservation and provide for educational programs. General Plan Policy 4-P-9 states, "Require a percentage of parking spaces in large parking lots be equipped to provide electric vehicle charging facilities." Policy 4-P-15D requires that new residential uses incorporate passive solar building design and landscaping conducive to passive solar energy use. Policy 4-P-19D encourages the use of renewable or nontraditional sources of energy (e.g., solar panels) in new development. Additionally, the City adopted CalGreen Tier 2 standards, which include a detailed list of green building features that address energy efficiency, water efficiency, waste reduction, material conservation and indoor air quality.

The project is required to comply with the CalGreen Building Tier 2 standards and Building & Energy Efficiency Standards. All new residences onsite will meet the mandatory requirements of Tier 2, which provides for increased energy efficiency and an associated reduction in GHG emissions. The project will install solar panels on new buildings intended to generate energy equivalent to building demands and will use high efficiency heating and other appliances in all units. As with all energy users in the City of Petaluma, new residents introduced by the project will

[14] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2011-2019 with 2010 Census Benchmark, May 2019.

be provided with the option to participate in Sonoma Clean Power Program, which relies on renewable energy and minimized GHG emissions from energy production. Additionally, the project includes water efficient landscaping and complies with the maximum applied water allowance and the City's water conservation regulations. The project proposes to provide 27 onsite EV charging stations and equip all garages with pre-plumbing to support EV charging.

The project provides 106 parking spaces for bicycles, in addition to bike parking in garages, and includes a public sidewalk along Casa Grande Road, a multi-use path along the site's northern property boundary, and a recreation trail along the site's eastern boundary with connectivity to the existing Alman Marsh trail and the adjacent Rocky Hill Dog Park. Trees are proposed along the perimeter of each building to provide shading and minimize energy requirements. In addition, the majority of landscaping includes drought resistant species (e.g., approximately 65 percent has a low water use).

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.

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: City of Petaluma General Plan 2025 and EIR; Phase I Environmental Site Assessment, prepared by AEI Consultants, December 4, 2018; Clean Closure Plan, prepared by CKG Environmental Inc., February 8, 2016; and Summary of Remediation/Clean Closure Plan, prepared by CKG Environmental Inc., June 26, 2020.

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." In California 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

A Phase I Environmental Site Assessment (ESA) was conducted by AEI Consultants on December 4, 2018 for the subject property in accordance with the guidelines of the American Society of Testing and Materials (ASTM) Standard Practice E1527-13 and the EPA Standard and Practices for All Appropriate Inquiries (40 CFR Part 312). The Phase I ESA (**Appendix J**) discusses the Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), and Historical Recognized Environmental Conditions (HRECs) in connection with the site assessment. No CRECs or HRECs were identified for the project site.

The subject property was formerly occupied by the Royal Tallow & Soap Company, a light-industrial facility, operating from at least from 1942 to 1989. The facility was equipped with two USTs containing unleaded gasoline, an auto repair shop, clarifier, wastewater sump, septic system and leach field, and waste water disposal ponds. Even though operations ceased in 1989, the structures and associated features remained on the property until all were demolished and removed by 2008. Additionally, a former city landfill extended onto the western portion of the property from at least 1942 to 1982.

The City of Petaluma operated landfill involved burn dump activities, which was common practice at the time and resulted in concentrating lead in the ash residue, since lead-based inks were used in print materials during that era.[15]

To assess conditions of the site from the former Royal Tallow & Soap Company operations as well as the adjacent landfill, several subsurface investigations of the property have been conducted from 2014 to 2018. Investigations have confirmed the following RECs:

- Fill material from offsite, stockpiled on the northern portion of the subject property since at least 2014: TPH-d, TPH-mo, dieldrin, and phenol above Environmental Screening Levels (ESLs) for residential development;

- Former waste water ponds: The metals arsenic, cadmium, cobalt, copper, nickel, vanadium, and zinc above the ESL in groundwater samples from the waste water pond areas;

- Former septic system and associated leach fields: TPH-g, TPH-d, TPH-mo, BTEX, and Naphthalene, and

[15] Summary of Remediation/Clean Closure Plan, prepared by CKG Environmental Inc., June 26, 2020

the metals barium, cobalt, copper, mercury, and nickel, all above their ESLs in groundwater samples collected from the former septic tank and leach field area;

- Former sump that was located in the southern portion of the main rendering plant: nickel and vanadium above the ESL in the groundwater sample collected in the vicinity of the sump;

- Former auto maintenance area: Lead above the ESL of 80 mg/kg (shallow and deep soil screening level for residential development); Benzene was detected at 39 µg/L in the groundwater, above the Groundwater Screening Levels for non-drinking water sources;

- Former 1,000-gallon UST and 2,000-gallon UST, removed from the subject property on June 30, 1990: TPH-g, TPH-d, TPH-mo, benzene, ethylbenzene, and xylenes above their ESLs in soil samples; TPH-g, TPH-d, TPH-mo, benzene, ethylbenzene, toluene, and xylenes above the ESL in the groundwater; ethylbenzene, xylenes, tetrachloroethene (PCE), and TPH-g above their ESLs in soil gas;

- Mound of construction debris (approximately 20 feet high) located on the central portion of the subject property: unknown characterization, no sampling data, AEI recommends sampling of this material and proper off-site disposal; and

- Landfill materials from the southwest adjacent historical landfill that may have been placed onto the subject property: lead concentrations exceeding both residential and industrial ESL's.

During the site reconnaissance, AEI observed two small groundwater monitoring wells, one on the western portion of the property and one on the northeastern portion. These wells are presumed to be associated with the various subsurface investigations conducted at the subject property. No hazardous materials or petroleum products were observed in the area of the wells. Based on this information, the presence of the wells is not expected to present a significant environmental concern. However, AEI recommends the proper maintenance of the wells and when they are either no longer used or prior to redevelopment activities, the wells should be properly decommissioned under appropriate permit.

Remediation/Clean Closure Plan

To address past contamination onsite a remediation/clean closure plan for the property has been developed in conjunction with the Regional Water Quality Control Board (RWQCB), CalRecycle, and the Sonoma County Lead Enforcement Agency (Sonoma County Department of Health Services). The clean closure plan calls for the removal of all impacted materials and proper offsite disposal. Remediation activities will involve scraping off and stockpiling unimpacted soils for re-use, removing eucalyptus trees along the western site boundary, removing vegetation where remediation occurs including within wetland areas, and excavating and treating impacted soils and vegetation for offside disposal at a facility licensed to accept treated material. Clean closure activities will be documented in a final report for acceptance by the RWQCB, as the lead regulatory agency responsible for overseeing waste clean up sites. Clean closure will only be accepted by the RWQCB once remediation activities are complete and testing verifies that contaminant in soil concentrations fall below the ESL's for residential use.

The Impact Analysis below identifies the potential environmental impacts from development of the site and the necessary remediation effort that must be carried out prior to construction of the proposed residential development.

Hazards/Hazardous Materials Impact Analysis

4.9 (a) (Routine Transport) Less Than Significant Impact: As a residential use, with a recreation center and swimming pool, the project will not create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials at operation. Activities onsite are limited to residential uses which do not typically result in the use of hazardous materials or 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 includes a proposed pool and landscaping, which require maintenance and involve periodic application and storage of regulated chemicals, fuels, and related products. Potentially hazardous materials such as common household products, pool chemicals, and landscaping supplies may be transported to the project site in small quantities intended for consumer use. 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 result in 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 onsite. Although these potentially hazardous materials may be present onsite during construction, the applicant is required to comply with all existing federal, state, and local safety regulations governing the transportation, use, handling, storage, and disposal of potentially hazardous materials. Once construction is complete there will not be ongoing use or generation of hazardous materials onsite.

As described above, multiple RECs were identified on the subject property. As such, contaminated soils and groundwater may potentially be encountered during construction activities. In order to protect people and the environmental from exposure to contamination, the applicant shall implement a Clean Closure Plan, inclusive of a Health and Safety Plan as required by **Mitigation Measure HAZ-1**, which will ensure that contaminated soils and groundwater are handled in a manner that precludes exposure of construction workers to elevated concentrations of contaminants. With implementation of Mitigation Measure HAZ-1, potential impacts associated with the release of hazardous materials into the environment and exposure to people will be reduced to levels below significance.

Prior to the commencement of site preparation, a Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) will be prepared and implemented during all construction activities (see also Section 4.9 Hydrology and Water Quality). Compliance with all existing federal, state, and local safety regulations governing the transportation, use, handling, storage, and disposal of potentially hazardous materials will ensure that potential impacts are reduced to less than significant levels.

4.9 (c) (Emit of Handle Within ¼ Mile of School) Less Than Significant Impact: The project site is not located within a quarter mile of a school. The nearest school, Miwok Valley Elementary School, is located approximately 0.5-mile northwest of the project site. As a residential land use, the project would not emit or handle hazardous materials capable of impacting the school. During cleanup activities and remediation as well as construction all requirements of federal and state laws regarding treatment and disposal of contaminated materials will be carried out and all Mitigation Measures identified herein and any additional measure required by CUPA, the County, and/or the RWQCB will be implemented. The Petaluma Fire Prevention Bureau regulates hazardous materials. If and when 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. Therefore, impacts related to the emission or handling of hazardous, or acutely hazardous materials, within one-quarter mile of an existing or proposed school will be less than significant.

7.9(d) (Existing Hazardous Material Sites) Less Than Significant with Mitigation: The California Environmental Protection Agency (CAL-EPA) annually updates the California Hazardous Waste and Substances Site List (also known as the "Cortese List"). As part of the Phase I ESA, AEI Consultants conducted a database review, which indicated that the project site is listed in a number of databases, including the State Water Resources Control Board GeoTracker database from soil and groundwater contamination. The project site contains soils with documented occurrence of contaminants that exceed the residential ESL. Without remediation, the introduction of residential uses onsite could result in a potentially significant exposure hazard to the public. In order to ensure that existing contamination is remediated, **Mitigation Measure HAZ-1,** which calls for the removal of approximately 6,000 cubic yards of impacted materials shall be implemented. Measure HAZ-1 further requires that contaminated soils onsite be remediated in accordance with the Clean Closure Plan and demonstrate acceptance of a Final Clean Closure Plan by the RWQCB verifying that onsite pollutant concentrations fall below ESLs for residential uses. With completion of remediation activities and acceptance of a Final Clean Closure Plan, as required by Mitigation Measure HAZ-1, potential impacts due to existing hazardous contamination onsite, will be reduced to less than significant levels.

There are two groundwater monitoring wells onsite associated with the various subsurface investigations that have occurred over the years.[16] No hazards, petroleum products or indicators of contamination were observed in the

[16] GeoTracker Database: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0609700905, accessed August 2020.

location of the onsite groundwater monitoring wells. The presence of these groundwater monitoring wells onsite does not present a significant environmental concern. However, as a condition of approval, these monitoring wells are required to be properly maintained and when no longer in use and prior to occupancy, onsite monitoring wells shall be properly decommissioned in accordance with Sonoma County Department of Health Services, Environmental Health and Safety permits. Impacts associated with the maintenance and removal of monitoring wells will be less than significant under the proposed project.

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; the nearest airport is the Petaluma Municipal Airport located over 1.5 miles north of the project site. Therefore, no impacts associated with airport-related hazards are expected.

4.9 (f) (Impair Emergency Response Plan) Less Than Significant 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.

4.9 (g) (Wildland Fire) Less Than Significant Impact: Wildland fires are of concern particularly in expansive areas of native vegetation of brush, woodland, grassland. The project site is categorized as a Non-VHFHZ by CAL FIRE and surrounded by urban uses and marshland (**Figure B-6** in **Appendix B**). Therefore, impacts related to the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires will be less than significant.

Mitigation Measures:

HAZ-1: Remediation activities onsite shall be conducted in accordance with the Clean Closure Plan including the treatment of approximately 6,000 cubic yards of impacted materials onsite. All impacted soils, vegetation, and trees shall be removed and remediated, in compliance with oversight by the RWQCB and disposed of at a facility licensed to accept contaminated materials. Prior to issuance of an occupancy permit, the City shall be provided with a Final Clean Closure Plan that has been accepted by the RWQCB demonstrating that remediation has effectively reduced pollutant concentrations onsite and all contaminants fall below ESLs for residential uses. Remediation activities shall be conducted in accordance with the Site-Specific Health and Safety Plan (included as Appendix A to the Clean Closure Plan).

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; Our Coast Our Future; Federal Emergency Management Agency's Flood Insurance Rate Map, Map Number 06097C1001G, October 2, 2015; Storm Drain Calculations, prepared by Steven J. Lafranchi & Associates, September 7, 2018; and Riverview Combined Site Plan and Architectural Review Civil Set prepared by Lafranchi & Associates, August 21, 2020.

Hydrology and Water Quality Setting

Surface water quality in Petaluma is regulated by the San Francisco Regional Water Quality Board (RWQCB) via the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The RWQCB is responsible for implementing Section 401 of the Clean Water Act through the issuance of a Clean Water Certification when development includes potential impacts to jurisdictional areas such as creeks, wetlands, or other Waters of the State. As described in Section 7.4(c) of this document, the project is subject to Section 401 of the Clean Water Act because there are identified waters of the State that will be impacted by the project.

Section 402 of the Clean Water Act regulates the discharge of pollutants to waters of the U.S. Locally, this is implemented through the National Pollution Discharge Elimination System (NPDES) General Permit. Requirements apply to the project's construction activities (e.g. 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, including the project, is required to mimic pre-developed

conditions, protect water quality, and retain runoff from new impervious surfaces introduced onsite. Guidance for compliance with LID and the Phase II Small MS4 General Permit is set forth in the Bay Area Stormwater Management Agencies Association (BASMAA) Post Construction Manual (2019).

Sonoma Water (formerly Sonoma County Water Agency) 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 reshaping channels, and debris removal to maintain hydraulic capacity of all waterways within Zone 2A. The drainage ditch adjacent to the project site along Casa Grande Road is City owned and maintained. The segment of the Petaluma River, south of the project site, is federally owned and maintained by the United States Army Corp of Engineers (Corps).

The Petaluma River is the primary watercourse within the City of Petaluma and the Petaluma watershed (an area of approximately 46 square miles). The Petaluma River is tidally influenced and flows in a southeast direction into San Pablo Bay. The Petaluma River is used for recreational boating and water sports as well as river-dependent industrial operations. Periodic dredging of the Petaluma river is necessary to maintain navigability for commercial shipping. River dredging from the turning basin to just south of Shollenberger Park is planned to occur during September and October of 2020.

The Federal Emergency Management Agency's (FEMA'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, the FEMA defines floodplain and floodway boundaries that are shown on the Flood Insurance Rate Maps (FIRMs).

Review of Federal Emergency Management Agency's Flood Insurance Rate Map panel numbered 06097C1001G, shows that the project site is located within Zone AE, subject to the 100-year flood with a base flood elevation of 10 feet, and Zone X, which is subject to 0.2 percent annual chance of a flood hazard, or the 500-year flood (**Figure B-7** in **Appendix B**).

The Project site is located within the boundaries of a Special Flood Hazard Area (SFHA) as defined by FEMA and an "Area of Special Flood Hazard", regulated by the City of Petaluma under the Flood Plain-Combining District (FP-C)[17] and is subject to provisions of the City's municipal code and Implementing Zoning Ordinance (IZO).

Chapter 6 of the City's IZO contains regulations for properties situated in floodways and floodplains to minimize property damage from flood waters and safeguard public health, safety, and general welfare. Section 6.011 of the IZO (Findings of Fact) states that:

A. The flood hazard areas of the City of Petaluma are subject to periodic inundation which can result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. These flood losses can be caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

Section 6.013 of the IZO (Methods of Reducing Flood Losses) includes the following methods and provisions to reduce flood losses in the City of Petaluma:

A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

[17] As described in Section 6.040 of the IZO, all areas within the boundaries of the "Area of Special Flood Hazard" but outside the "Floodway" areas are zoned to the Flood Plain/Flood Prone Area – Combining District (FP-C).

B. Requiring that uses vulnerable to floods, including facilities which serve such uses, 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.

The FP-C applies to the southern portion of the subject property. Section 6.070(D) of the IZO contains regulations related to residential construction within a FP-C zone, and states:

> "New construction and substantial improvement of any residential structure permitted in FP-C (Flood Plain-Combining) zones shall have the lowest habitable floor, including basement, elevated at least 12 inches above the level of the base flood elevation or depth number specified on the FIRM (Flood Insurance Rate Map), whichever applies to the area, unless otherwise restricted in Section 6.070(D2). Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, to be properly elevated. The datum for this elevation shall be as specified in this article. Such certification or verification shall be provided to the Floodplain Administrator."

The terrain of the project site is somewhat variable due to stockpiles and fill in the northern portion of the site and lower areas at the west and southeast margins. Overall, the site slopes towards the south, with higher elevations in the north and lower elevations in the south. The project site currently lacks formal storm drain infrastructure and stormwater sheet flows from the site following the grade, generally towards the Petaluma River to the south.

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.

Sea Level Rise

Sea level rise results from global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. Sea level rise is not uniform and is largely dependent on factors such as atmospheric and oceanic circulation, tectonics, and gravitational/deformational effects generated by land mass changes. Sea level rise will most directly affect areas that are on the coast. As a tidally influenced river, the Petaluma River will also be affected.

While the magnitude of sea level rise ranges widely, the San Francisco Bay Conservation and Development Commission (BCDC) developed Sea Level Rise projections based on sixteen (16) inches of sea level rise by mid-century (year 2050) and fifty-five (55) inches of sea level rise at the end of the century (year 2100).[18] BCDC generally

[18] Bay Conservation Development Commission. *2011 Living with a Rising Bay: Vulnerability and Adaption in the San Francisco Bay and on its Shoreline*. Available at: http://bcdc.ca.gov/BPA/LivingWithRisingBay.pdf

suggests that the anticipated sea level rise projections largely correspond with today's 100-year flood zone. Meaning that, under a reasonably foreseeable expectation of sea level rise, the 100-year floodplain would be subject to flooding not just during a 100-year flood event, but also during high tide.

Sea level rise projection data from the California Coastal Commission's Sea Level Rise Policy Guidance, adopted August 12, 2018 and updated November 7, 2018 suggests that sea level rise scenarios may be more extreme. Using local tidal datum based on information from the National Oceanic and Atmospheric Administration (NOAA) and the sea level rise projections set forth by the Coastal Commission, sea level rise scenarios at the project site are presented in the Riverview Plan Set, Sheet C-18: Sea Level Rise Projections and Potential impacts), and show that sea level is projected to rise by 22.8 inches (1.9 feet) in 2050 and by 82.8 inches (6.9 feet) in 2100. As shown in Sheet C-18, the two buildings onsite with the lowest finished floor elevation would be affected by 3.5 feet of sea level rise, projected to occur in 2070, during a 100-year storm event. Under 4.5 feet of sea level rise, project to occur in 2080, 17 additional buildings would be affected during a 100-year storm. With 5.6 feet of sea level rise, projected to occur in 2090, and with a 100-year storm, the entire project site would be affected.

Sea level rise scenarios are provided for informational purposes and not to assess potential environmental impacts of the project. The project site is forecast to be affected by sea level rise in the future, which is an impact of the environment on the project, as opposed to the project's impacts on the environment. The California Environmental Quality Act (CEQA) is concerned with environmental impacts caused by the project, and not the impacts of the environment on the project.[19]

Hydrology and Water Quality Impact Analysis

4.10 (a) (Water Quality Standards) Less Than Significant Impact with Mitigation: The mandatory requirements of the NPDES General Permit apply to the project's construction and post-construction stormwater discharges. Prior to construction, the project applicant is required to file for coverage under the State Water Resources Control Board (SWRCB) for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit). Petaluma is also covered under the Phase II Small MS4 general permit dated July 1, 2014, Order # 2013-001 DWQ for post construction water regulations.

Mandatory requirements cover construction activities including, but not limited to, clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement of impervious surfaces (e.g., asphalt). Compliance is initiated through submittal of a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) and carried out through a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to contain a site map, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. 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).

Construction activities have the potential to result in runoff that contains sediment and other pollutants that could degrade water quality if not properly controlled. Sources of potential pollution associated with construction include fuel, grease, oil and other fluids, concrete material, sediment, and litter. These pollutants have the potential to result in impacts due to chemical contamination from the presence of construction equipment and materials that could pose a hazard to the environment or degrade water quality if not properly managed.

To avoid potential impacts to water quality **Mitigation Measure HYDRO-1,** set forth below, requires that the project implement a SWPPP with BMPs that include, but are not limited to, fiber roll protection at all drains, the use of gravel at access driveways during construction, designated washout areas, and the development and implementation of a hazardous materials spill prevention plan. These and other BMPs are designed to protect water quality from potential contaminants in stormwater runoff emanating from construction sites. With implementation of HYDRO-1, the project's potential to result in a violation of water quality standards during construction would be reduced to levels below significance.

[19] Section 21083 (c) Public Resources Code and case law established through *California Building Industry Association v. Bay Area Quality Management District*.

As discussed in Section 4.9 Hazards/Hazardous Materials, contaminated groundwater may be encountered during construction activities and adherence to a Clean Closure Plan including protocol for the management of groundwater shall be implemented in accordance with measure HAZ-1 set forth above. According to the Soil Investigation Report, groundwater was encountered at approximately 4 to 15 feet below the ground surface. Grading, remediation, and site preparation activities has the potential to encounter groundwater and may require dewatering during construction activities. The discharge of construction dewatering could result in increased sediment loads to the storm drain system, which could adversely impact water quality if not properly controlled. To avoid potential impacts to water quality as a result of construction dewatering, **Mitigation Measure HYDRO-2** , set forth below shall be implemented. Measure HYDRO-2 requires that the project comply with waste discharge requirement specified by the RWQCB, including the reuse of dewaters onsite, allowing settlement of sediment to occur prior to release, and other BMPs. With implementation HYDRO-2, the project's potential to result in a violation of water quality standards due to dewatering associated with construction would be reduced to levels below significance.

At operation, stormwater runoff could degrade water quality via non-point contaminants such as oils, grease, and exhaust that settles onsite. Stormwater from the new buildings and other impervious surfaces would be collected and routed to bio-retention areas throughout the site, allowing for treatment and infiltration. Stormwater would be routed to new storm drains within the project site and conveyed to outfalls along the western and eastern limits of the site. Stormwater runoff at operation has the potential to result in water quality impacts if not properly treated. To ensure that the project does not result in adverse impacts to water quality at operation of the project, compliance with the MS4 General Permit is required in accordance with Mitigation Measure HYDRO-3. With implementation of water quality control and wastewater discharge standards, including as they may be refined under the mandatory provisions of the NPDES General Plan, along with the SWPPP, and measure HYDRO-3 the project's impacts to water quality will be reduced to less than significant levels at operation.

4.10 (b) (Groundwater Supply and Recharge) Less Than Significant Impact: The City of Petaluma has historically used surface water, groundwater, and recycled water supplies to meet customer demands. The near-term supply strategy of the 2015 Urban Water Management Plan (UWMP) relies on surface water from the Sonoma Water and recycled water from the City's Ellis Creek water recycling facility. Groundwater is identified as a backup water supply source through the year 2040. Water demand from the subject project is accounted for in the General Plan EIR and water demand projections of the 2015 UWMP. Development onsite will be subject to the latest standards for water conservation and water use efficiency including indoor and outdoor water use. Based on the above, and in accordance with the 2015 UWMP, the City of Petaluma has adequate water supply resources to accommodate development of the project without depleting, degrading, or altering groundwater supplies or interfering substantially with groundwater recharge.

The proposed project will rely exclusively on potable water delivered by the City of Petaluma and does not involve any groundwater extraction onsite. Thus, the project would not result in the lowering of the aquifer or the local groundwater table. 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 (c.i-iii) (Drainage Pattern – erosion, surface runoff, stormdrain 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 predevelopment conditions. Currently stormwater runoff from the project site sheet flows towards the Petaluma River.

The proposed project would introduce new impervious surfaces to the project site and onsite stormdrain infrastructure. The new storm drain system introduced by the project will collect stormwater runoff from new impervious surfaces via downspouts, swales, area drains and direct runoff towards bio-retention basins designed accommodate the 85th percentile storm. As previously stated, the stormwater from the new buildings and other impervious surfaces would be collected and routed to bio-retention areas throughout the site, allowing for treatment and infiltration. The bio-retention areas are designed to remove sediment from surface flows thereby preventing erosion and siltation from entering water ways. Pre-treated stormwater runoff flows through onsite storm drains within the project site and is discharged to outfalls proposed along the western and eastern limits of the site. The

general direction and pattern of drainage following construction will match pre-development conditions. As stated in the Storm Drain Calculations report, the proposed storm drainage system is adequately distributed to remove storm waters without causing flooding on or offsite. The report concluded that the 10-year storm and 100-year storm will be accommodated within the proposed drainage system.

Therefore, with the new storm drain systems and bio-retention areas onsite, the new impervious surfaces will not contribute surface runoff water that: 1) results in substantial erosion or siltation on- or off-site; 2) exceeds the capacity of the existing storm drain system; 3) results in flooding on-or offsite; or 4) provides substantial additional sources of polluted water. Therefore, impacts to drainage, erosion, and runoff from the proposed project would be less than significant.

4.10 (c.iv) (Drainage Pattern – impede or redirect flood flows) Less Than Significant Impact: The area proposed for development is previously disturbed contains compacted soils, fills and stockpiles which have limited infiltration capacity and the balance of the site is dominated by ruderal/non-native annual grasslands and wetlands, which facilitate infiltration and retain water during flooding. To accommodate the proposed project grading will alter onsite elevations, remove existing grasslands, fill approximately 1.52 acres of wetlands, and retain approximately 0.63 acres of wetland. Grading will redistribute soils onsite and elevate the southern portion of the site by approximately 3-4 feet. Thereby elevating the site well above the base flood elevation (i.e. 10-feet above mean sea level). During 100-year storm events, the floodplain of the Petaluma River becomes inundated and under existing conditions would result in floodwater on the project site, where elevations are at or below 10 feet above mean sea level. Under the proposed project, at buildout, ground surface elevations, graded slopes, and the proposed retaining wall along the southern portion of the site will preclude flood waters during a 100-year storm event from entering. The proposed changes in the grade and site improvements will impede or redirect flood flows by precluding onsite flooding and will direct flood waters elsewhere in the vicinity, but not at a volume or intensity that would result in significant environmental impacts.

Steven J. Lafranchi & Associates calculated the volume of displaced floodwaters in the event of a 100-year flood (Sheet C-16: Review of Displaced Waters), with implementation of the proposed project. The determination of displaced flood water volume was based on areas below 10 feet NAVD-88 proposed to be filled within the project limits. It was determined that approximately 5 acre-feet of flood waters would be displaced by the proposed project during a 100-year flood. Based on the floodplain capacity of the surrounding area, approximately 437.4 acre-feet, the effects of displaced waters would be negligible (0.029 feet added to the flood rim, see Sheet C-17 Floodplain Limits and Project Influence). Therefore, the project will not substantially impede, or redirect flood flows and impacts will be less than significant.

4.10 (d) (Flood Hazard, Tsunami, Seiche Zones) Less Than Significant Impact with Mitigation: The southern portion of the project site is located within Zone AE (a special hazard flood area), which is subject to 100-year flooding with a base flood elevation of 10 feet. The balance of the project site is located within Zone X, which is subject to 0.2 percent annual chance of a flood hazard, or 500-year flood (**Figure B-7** in **Appendix B**). The City of Petaluma's IZO allows for development within the floodplain (Section 6.040) and the City's general plan land use designation and zoning anticipate residential uses on the project site.

As described above, the project site has a base flood elevation of 10 feet. Per Section 6.070(D) of the IZO, new residential structures permitted in FP-C (Flood Plain-Combining) zones shall have the lowest habitable floor, including basement, elevated at least 12 inches above the level of the base flood elevation (which would be 11 feet above mean sea level). As shown in the Preliminary Grading Plan (sheet C-5), new buildings introduced onsite would have finished floor elevations ranging from 13.5 to 15.3 feet, which would exceed the City's requirements to elevate 12 inches above the base flood elevation (Section 6.070(D) of the IZO). Although the project will elevate the lowest habitable floor in compliance with the standards set forth in the IZO, the project will introduce people, structures, public facilities, roads, and other infrastructure in a flood hazard area, which could risk release of pollutants due to inundation.

To ensure compliance with the City's requirements in Section 6.070(D) of the IZO, **Mitigation Measure HYDRO-4** shall be implemented, which requires that prior to issuance of occupancy, the elevation of the lowest habitable floor, including basements, shall be certified by a registered professional engineer or surveyor, to be properly elevated. Compliance with Section 6.070(D) of the IZO and implementation of measure HYDRO-3, reduces potential impacts due to flood hazards to levels below significance.

The project includes development of an onsite storm drain system comprised of pipelines, catch basins, drop inlets and bioretention areas. The Preliminary Drainage Report (Storm Drain Calculations) assessed the potential for flooding onsite under the 10-year and 100-year storm event in accordance with City of Petaluma and Sonoma Water standards (Flood Control Design Criteria). The Storm Drain Report demonstrates that the hydraulic grade line (HGL) for the 10-year event will stay below the grate elevations of the storm drain (i.e. will not backflow onto the site) and that the 100-year HGL will remain below the top of curb. Therefore, the proposed infrastructure onsite is sufficient to protect new residents, structures, and improvements onsite from flood hazards and impacts will be less than significant.

The project site is not located within a tsunami or seiche zone. Therefore, the project site will have no impacts regarding inundation by tsunami or seiche.

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, the project includes bio-retention areas that will minimize runoff, reduce sedimentation, and protect water quality. Additionally, mitigation measures set forth above further provide for protection of water quality during construction and at operation. 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 developed, the project will not result any conflicts to such a plan. Therefore, potential impacts will be less than significant.

Mitigation Measures:

HYDRO-1: A In accordance with the National Pollution Discharge Elimination System (NPDES) regulation, the applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP shall address erosion and sediment controls, proper storage of fuels, identification of BMPs, and use and cleanup of hazardous materials. A Notice of Intent, fees, and other required documentation shall be filed with the Regional Water Quality Control Board. During construction a monitoring report shall be conducted weekly during dry conditions and three times a day during storms that produce more than 1/2” of precipitation.

HYDRO-2: Should construction dewatering be required, the applicant shall either reuse the water on-site for dust control, compaction, or irrigation, retain the water on-site in a grassy or porous area to allow infiltration/evaporation, or obtain a permit to discharge construction water to a sanitary sewer or storm drain. Discharges to the sanitary sewer system shall require a one-time discharge permit from the City of Petaluma. Measures may include characterizing the discharge and ensuring filtering methods and monitoring to verify that the discharge is compliant with the City’s local wastewater discharge requirements. Discharges to a storm drain shall be conducted in a manner that complies with the Regional Water Quality Control Board Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region. In the event that groundwater is discharged to the storm drain system, the Applicant shall submit permit registration documents and develop a Best Management Practices/Pollution Prevention Plan to characterize the discharge and to identify specific BMPs, such as sediment and flow controls sufficient to prevent erosion and flooding downstream.

HYDRO-3: The project shall implement appropriate post-construction stormwater treatment measures to reduce water quality and hydromodification impacts to downstream reaches, as required by the current post construction controls regulations of the Small MS4 General Permit. Upon completion of the final project design, the Applicant shall provide a final stormwater control plan (SWCP) to the City of stormwater management measures that show compliance with the Small MS4 General Permit. The report shall delineate individual drainage management areas (DMAs) within the project site and provide analysis to show compliance with the volumetric or flow-based treatment criteria as described in the Small MS4 General Permit and outlined in the BASMAA (2019) Post-Construction Manual. The report shall also include design calculations that show post-project runoff for the 24-hour, 2, 5, 10, 25, and 100 year storm event does not exceed pre-project flow for each DMA, and that each DMA has appropriate stormwater quality treatment based on flow- or volumetric-based calculation, as outlined in the Small MS4 General Permit and in compliance with the BASMAA Manual. The final SWCP documentation shall be submitted to the City and Sonoma Water for review and an approval letter from Sonoma Water prior to the issuance of a grading permit.

HYDRO-4: 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 City's FP-C, such as the following:

1. All new improvements shall be anchored to prevent 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 2025 and EIR; Figure 3.1-2 Planning Subareas Plan; City of Petaluma Implementing Zoning Ordinance (IZO); the Petaluma River Access and Enhancement Plan; and the Enhancement Plan for the Petaluma Marsh, final dated December 1992.

Land Use Setting

The City's land uses within the Urban Growth Boundary include residential, commercial, industrial, agricultural, open space and public lands. Approximately 44% of land within the UGB is designated for residential development with 40% of the existing residential development consisting of single family residential. Approximately 0.8% of the UGB lands are designated for commercial use. The 2025 General Plan proposes commercial/retail development that would increase the existing development by 2.87 million square feet relative to 2005 conditions. At buildout, commercial/retail uses are expected to total 7.06 million square feet, accounting for approximately 3% of the land uses.

The project site is located within the UGB, City limits, and the General Plan's Lakeville Highway subarea which consists of a mix of a residential, commercial, light industrial, public, and open space land uses including the City's water recycling facility, the Petaluma Marina, and Shollenberger Park. The Lakeville Highway Subarea comprises approximately 1,082 acres within the City and is located in the southeast portion of Petaluma. The Subarea envisions pedestrian and bicycle access to open space areas, and along the Petaluma river and its tributaries. Policy 2-P-67 of the General Plan calls for the integration of open space with public trails.

Land uses adjacent to the subject property are designated as Mixed Use, Business Park, Neighborhood Commercial, City Park, and Open Space. The Petaluma River and land uses designated as Industrial are located south of the subject property. The project site exhibits a General Plan land use designation of High Density Residential (18.1 to 30 dwelling units/acre) and Open Space (**Figure 3: General Plan Land Use**). The project site is zoned R5 (Residential 5) and is adjacent to OSP (Open Space-Park) to the south and PCD (Planning Community Development) to the north, as shown in **Figure 4: Zoning**.

The Enhancement Plan for the Petaluma River Marsh, finalized in 1992 evaluates 140 acres adjacent to the Petaluma River south of the Marina and north of Adobe of Creek including disturbed wetland habitat, the former City landfill, industrial, commercial, and open space areas. Figure 4 of the marsh plan identifies vegetation and land uses. The project site is identified as the former location of the Tallow company and the adjacent property the landfill site, which is now Rocky Memorial Dog Park. The Marsh Plan, Figure 10, calls for a public access trail, native planting, screen trees, and a buffer at the project site to be determined at the time of development.

The City of Petaluma adopted a Climate Emergency Resolution, formed a Climate Action Commission and on January 11, 2021, the City Council adopted the Climate Emergency Framework. The Framework guides the City's ongoing response to and discussion about the climate crisis and informs subsequent policies and implementation strategies. The principles identified in the Framework establish Petaluma's shared vision of a healthy, sustainable, and equitable community and advances the City's objective of achieving carbon neutrality by 2030.

A portion of the project site is within the floodplain of the Petaluma River, and has the overlay land use designation of FP-C (Flood Plain-Combining District), as defined by Section 6.040 of the IZO. This portion of the site is subject to the applicable policies and provisions of Chapter 6 of the City's IZO pertaining to floodplains.

Land Use Impact Analysis

4.11 (a) (Divide an Established Community) No Impact: 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 would not divide an established community, rather it would introduce residential development on a property zoned for residential uses at a density anticipated by the General Plan and Zoning Code. The project does not contain any elements that would introduce a physical feature that would impede mobility or access. The project proposes the installation of on onsite Class I multi-use path along the northern and eastern boundaries of the project site, connecting to the existing Alman Marsh Trail and Shollenberger Park. The new onsite multi-use path would be publicly accessible from the terminus of Casa Grande Road, west of the site, and from the terminus of Technology Lane, east of the site. New multi-use paths introduced onsite would enhance public access to the existing public trail network associated with the Alman Marsh and Shollenberger. Therefore, the project will have no impacts due to physically dividing an established community.

4.11 (b) (Land Use Plan, Policy, Regulation Conflict) Less Than Significant Impact: The proposed residential development is similar in scale and density to the existing residential development north of the project site. The project is consistent with the high-density residential land use designation for the site, which allows for residential uses at a density of 18.1 to 30 dwelling units per acre. The project would introduce 264 units on a 14.4-acre site, which based on the City's General Plan density calculation equates to a density of 18.71 units per acre. As such, the project consists of a land use type and density that is consistent with the General Plan. The project also conforms to development standards prescribed in the Implementing Zoning Ordinance related to the R-5 Zoning District, such as height limits (45 feet), usable open space (400 sf/unit), fencing, landscaping, and parking.

As proposed, the project presents a potential conflict with the General Plan regarding gated access. Page 5-6 of the General Plan states that "Private streets shall retain public access easements and shall not prohibit access by way of gates or barriers." The project proposes gated access via the installation of a gatehouse and mechanical gate across the new private street. The proposed gate is set back from Casa Grande Road by approximately 160 feet and is designed to provide gated access for both pedestrians and vehicles. Given the General Plan's stated intent to retain public access and not prohibit access by way of gates or barriers, the project as currently designed would conflict with this General Plan policy. This conflict does not result in a physical environmental impact, rather it is an inconsistency with an established General Plan policy. In order to avoid this potential conflict, the project is subject to a condition of approval requiring removal of the gate.

As further discussed in Section 4.17 Transportation below**,** the City is already experiencing existing traffic conditions that do not comply with General Plan Policy 5-P-10, which aims to maintain an intersection level of service (LOS) standard for motor vehicle circulation of D or better. Several study area intersections currently operate at deficient LOS E or F under existing conditions are projected to remain deficient under pipeline and future scenarios, even

without the proposed project. The addition of project trips to the city's circulation system will contribute to these existing LOS deficiencies, thereby perpetuating a conflict with General Plan Policy 5-P-10. As directed by the State through SB 743, LOS is no longer to be taken into consideration as a means for assessing environmental impacts of a project, rather a VMT metric is to be used as described in Section 4.17. As such, the project's contribution to the already-degraded LOS is not an environmental impact caused by the project.

In January of 2021, the City Council adopted the Climate Emergency Framework with the intent of providing guidance to develop and implement climate strategies. Goals identified in the Climate Emergency Framework that are particularly relevant to the project include reducing VMTs through active transportation, access to transit, maximizing density, and installing supportive infrastructure for non-combustion vehicles (rooftop solar, EV stalls, and EV ready garages). Additionally, the project is subject to Traffic Impact Fees which are used to fund transportation infrastructure improvements citywide including pedestrian and bicycle and transit facilities. As proposed new buildings incorporate sustainable design features, including solar energy generation, in compliance with the new Building Energy Efficiency Standards of the California Building Code Title 24. The project also proposes to install public multi-use paths along the site's northern and eastern boundary, which provide connectivity to existing public paths offsite. Additionally, the property owner dedicated 5.9 acres of land adjacent to the southern site boundary and extending to the Petaluma River, to the State Lands Commission for preservation in perpetuity.

The City's Bicycle and Pedestrian Plan identifies a proposed Class I Bike facility (off-street pathway that may be shared with pedestrians) along the northern boundary of the subject property, a proposed Class II Bike facility along Casa Grande Road (on-street bikeway), and a proposed recreational trail along the site's eastern boundary. As proposed, the project is in full compliance with the City's Bicycle and Pedestrian Plan. The project will install a 12-foot-wide Class I multi-use path along the northern property line, frontage improvements to Casa Grande Road including sidewalks and striping/signage for a Class II Bike Facility, and an 8-foot-wide recreational trail along the site's eastern boundary. Therefore, the project is consistent with the City's Bicycle and Pedestrian Circulation Plan and does not present any conflicts that would result in an environmental impact.

The project is generally consistent with the Enhancement Plan for the Petaluma Marsh. As proposed the project provides for public access trails along the north and eastern site limits with connectivity to the existing public paths along the Petaluma River including the Alman Marsh trail. The supplemental planting plan provides for screening along the site's western boundary and introduces native species. Although the project will result in fill to wetlands to accommodate the proposed housing development, wetlands along the eastern and western portion of the site will be remediated (lead contamination) and retained and wetlands will be created offsite at 2:1 ratio to replace wetlands to be filled by the project. Additionally, the property owner has dedicated 5.9 acres of open space[20] south of the project site with frontage on the Petaluma River to the State Lands Commission, which ensures conservation in perpetuity. Therefore, the project is consistent with the City's Marsh Plan, land use and zoning designation.

The City of Petaluma General Plan and zoning regulation allow for development within the 100-year floodplain, provided that specific standards are met. Per Section 6.070(D) of the IZO, new residential structures permitted in FP-C (Flood Plain-Combining) zones shall have the lowest habitable floor, including basement, elevated at least 12 inches above the level of the base flood elevation or depth number specified on the FIRM. The project site has a base flood elevation of 10 feet. As shown in the Grading Plan (sheet C-5), the buildings located within areas subject to 100-year flooding would have finished floor elevations ranging from 13.5 to 15.3 feet, thereby exceeding the City's requirement to elevate 12 inches above the base flood elevation. Additionally, the project would be required to comply with all provisions of the IZO regarding the FP-C and Mitigation Measure HYDRO-3, as set forth above. As such, the project is consistent with Section 6.070(D) of the IZO.

Other potential conflicts with City land use regulations are discussed within each section of this document (Aesthetics, Air Quality, Biological Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, and Transportation). Mitigation measures to avoid or minimize potential conflicts with City land use regulations are identified therein. Therefore, environmental impacts due to a conflict with City land use regulations will be less than significant.

[20] This area has a land use designation of Open Space and is zoned OSP (Open Space-Park).

Mitigation Measures: None required.

4.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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: City of Petaluma General Plan 2025 and EIR.

4.12 (a-b) (Mineral Resources or Plan) 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 a known mineral resource, including those designated as "locally important." Therefore, the proposed project will have no impact that results in the loss of availability of 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: City of Petaluma General Plan 2025 and EIR; Environmental Noise Assessment, prepared by Illingworth & Rodkin, June 15, 2018, updated November 22, 2019; City of Petaluma Implementing Zoning Ordinance (IZO); and W-Trans, Traffic Impact Study, November 19, 2019.

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 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. Multi-family residential land uses are considered normally acceptable in a noise environment up to 65 dB (Ldn or CNEL). The Noise Contours Figure 10-1 indicates that noise levels at the site are projected to be 60 dB CNEL at General Plan build out.

Noise Conditions: Project Site

A project level Noise Assessment was prepared for the subject project (**Appendix K**).The existing noise environment at the project site is primarily influenced by vehicles and trucks traveling along Highway 101, Lakeville Highway and South McDowell Boulevard. The existing noise environment also includes maintenance and operational noise from the adjacent apartment complex to the north, the truck storage and dispatch yards to the northwest, dogs and patrons at the adjacent dog park, and bird and insect noise associated with the wooded and grassy open spaces. A noise monitoring survey was conducted between 5 pm on Thursday June 7th and 1pm on Monday June 11, 2018 to quantify the existing noise environment on the project site. The noise monitoring survey included two long-term and one short term noise measurement. The long-term measurement locations are indicated as LT-1 and LT-2 and the short-term measurement location as ST-1 in **Figure 10**. The results of those measurements are shown in **Table 10**.

Figure 10: Noise Monitoring Locations

TABLE 10: SUMMARY OF SHORT-TERM AND LONG-TERM NOISE MEASUREMENT DATA (dBA)

Noise Measurement Location	Lmax	L(1)	L(10)	L(50)	L(90)	Leq	CNEL
ST-1: On site approximately 100 feet from the centerline of Casa Grande Road	65	62	53	48	47	51	59[1]

LT-1: On site approximately 300 feet from the centerline of Casa Grande Road	66	60	52	48	45	50	58
LT-2: On site approximately 20 feet from closest residence at Lakeville Square complex	62	60	54	51	48	52	61

Source: Environmental Noise Assessment, Illingworth & Rodkin, June 15, 2018, and updated November 22, 2019.

Note: (1) – The Ldn at ST-1 is approximated by correlation to the corresponding measurement at LT-1.

Noise Impact Analysis

4.13 (a) (Noise Standards) Less Than Significant Impact with Mitigation:

Construction Noise

The City's Noise Ordinance establishes standards to minimize the temporary noise impacts associated with construction, such as limitations on the time of day and week when construction activities are acceptable. Construction of the project would result in temporary noise disturbances that could potentially impact nearby sensitive receptors due to the site's proximity to surrounding residential development.

Construction of the proposed project would result in temporary and intermittent noise increases onsite and in the project vicinity from the use of heavy equipment, truck deliveries and off-haul of materials. Construction noise associated with the proposed project would be perceptible to established uses in the immediate vicinity including nearby residences to the north, office/industrial uses to the east, and recreational uses to the west.

Noise impacts resulting from construction of the project depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction occurs over extended periods of time.

Construction of the proposed project is anticipated to occur over an 18-month period and would include removal of pavement, debris piles, and vegetation, remediation including the removal of eucalyptus trees, site preparation, grading and excavation, trenching, building erection, and paving. During each stage of construction, there would be a different mix of equipment operating, and noise levels would vary based on the amount of equipment in operation and the location at which the equipment is operating.

Most demolition and construction noise is in the range of 80 to 90 dBA at a distance of 50 feet from the source. Average noise levels from construction activity onsite would range from 83 to 92 dBA. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. The existing residents at the adjacent apartments and users of the Rocky Memorial Dog Park and the Marsh Trail would be intermittently exposed to high levels of noise during periods of construction.

Although nearby residents will be exposed to elevated noise levels from construction, exposure is intermittent and temporarily and will cease once construction is complete. At a minimum the project is required to adhere to the standards set forth in Section 21.040.A.3.a of the City's Implementing Zoning Ordinance (IZO). Given the site's proximity to existing residents, **Mitigation Measures NOI-1** is set forth below to ensure that standard noise controls pursuant to the City's IZO are implemented. Therefore, the project will not exceed noise standards and impact from temporary construction activities will be reduced to less than significant levels.

Permanent Increase in Ambient Noise Levels

At operation, the proposed project would contribute to the ambient noise environment from additional vehicles traveling on roadways and mechanical equipment.

Project-Generated Traffic Noise

A significant impact would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if the project traffic on area roadways where to result in a noise level increase of 4 dBA CNEL or greater. To cause a 4 dBA increase in noise along Casa Grande Road, the project would have to generate enough traffic to increase current roadway volumes by over 150%. As discussed in the Traffic Impact Study prepared by W-Trans, the project is expected to generate an average of 1,932 new daily trips, of which 121 trips would be during the a.m. peak hour and 148 trips would be during the p.m. peak hour. Given the size of the project (264 units) and the current amount of traffic on Casa Grande Road (from existing truck storage and dispatch yards, apartment complex to the north, and the adjacent dog park), current roadway volumes along this stretch of Casa Grande Road are not projected to increase by over 150% from implementation of the project. Therefore, the increase in traffic noise generated by the project would be below the noise significance criteria for permanent noise increases. As such, the project's contribution to the existing ambient noise levels from increased traffic would result in less than significant impacts.

Mechanical Equipment

The proposed project will include mechanical equipment such as heating, ventilation, and air conditioning systems (HVAC). Noise generated by mechanical equipment from a new residential building introduced by the proposed project is expected to produce a sound level of up to 42 dBA at the nearest sensitive receptor. Assuming that all HVAC equipment were to operate simultaneously the total combined sound level is calculated to be up to 53 dBA, which is below the City's established Noise Ordinance limit of 60 dBA. Therefore, mechanical equipment noise introduced by the project would have less-than-significant impacts on ambient noise levels.

Noise and Land Use General Plan Consistency of Proposed Noise-Sensitive Uses

At operation, the proposed project would introduce new sensitive noise receptors (residents) to the subject property. Exposure of new residents to elevated community noise levels is provided for informational purposes and does not constitute an environmental impact to noise because community noise levels are not caused by the project. Rather, exposure of new residents to excessive noise levels is addressed as a land use compatibility consideration as it related to General Plan policies.

The future noise environment on the project site due to external sources such as area traffic and adjacent recreational, residential, and office/industrial uses is expected to remain largely the same as the existing condition. However, to conduct a conservative analysis, the Environmental Noise Assessment assumes that under future conditions, traffic on local area roadways would increase by 1% to 2% in volume per year as a result of general growth throughout the City and that a similar increase in activities at the surrounding recreational and office/industrial uses would also occur. Considering this, the noise environment on the project site under future conditions would be approximately 1 decibel higher than existing noise levels. This increase would result in CNEL levels of 59 to 62 dBA on the site and at the site periphery under future conditions.

The adjacent recreational, office/industrial, and residential uses were not found to result in noise levels at the site perimeter or elsewhere on the site that exceed acceptable noise levels for the proposed multi-family residential uses. As discussed above, the future exterior noise levels on the project site are expected to be characterized by a CNEL of less than 65 dBA. The project site noise environment would be considered "normally acceptable" by the City's General Plan for the proposed multifamily residential use of the site. Therefore, the proposed project is generally consistent with the General Plan's applicable noise standards.

4.13 (b) (Groundborne Vibration and Noise) Less Than Significant Impact: Construction activities would include site preparation work such as grading and the installation of utilities, foundation work, and new building framing. Construction techniques that generate the highest vibration levels, such as impact or vibratory pile driving, are not expected to occur during construction of the project. Construction activities near the northern project perimeter could occur at distances as close as 30 feet from existing residential units.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 in/sec, PPV for buildings structurally sound and designed to modern engineering standards. **Table 11** presents vibration source levels for typical construction equipment at a distance of 25 feet. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, drilling typically generates vibration levels of 0.09 in/sec PPV, and vibratory rollers generate vibration levels of 0.21 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions,

construction methods, and equipment used. At distances of 30 feet or greater, construction activities would be below the 0.50 in/sec PPV damage criteria.

TABLE 11: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT[1]

Equipment	PPV at 25 feet (in/sec)
Clam shovel drop	0.202
Hydromill (slurry wall) – in soil	0.008
Hydromill (slurry wall) – in rock	0.017
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Environmental Noise Assessment, Illingworth & Rodkin, June 15, 2018, and updated November 22, 2019.

Though vibration generated during project construction is not be expected to cause structural damage, vibration levels during construction may still be perceptible. However, the periods of perceptible vibration would be brief, limited to the immediate construction area, and would not approach significance levels (0.5 in/sec PPV). Therefore, the project would not expose people or structures to excessive groundborne vibration and impacts from groundborne vibration would be less than significant.

4.13 (c) (Airport Noise) No Impact: The project site is not located within a private airstrip, 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 7:00 a.m. and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 7:00 p.m. on Saturday. Construction activities shall be prohibited on Sunday and State, Federal and Local Holidays. Construction activities occurring within 100 feet of the north property line shall be limited to the hours between 7:30 a.m. and 5:30 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturdays.
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 by assessor parcel number (within 1,000 feet of the project site) of the construction schedule, 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 Housing Element 2015-2023.

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 264 for-rent, multi-family dwelling units. The project site is identified as Site #13 on the City of Petaluma Residential Land Inventory Opportunity Sites, Appendix E to the City of Petaluma 2015-2023 Housing Element, prepared December 2014. As described in the Housing Element, sites classified as high-density residential and

that are vacant, such as the project site (Site #13), represent the greatest potential for the development of affordable housing to very low- and low-income households. The Housing Element identifies a development potential of 250 units at the project site.

Population and Housing Impact Analysis

4.14 (a) (Substantial Growth) Less Than Significant Impact: The project site is located within the UGB and will not directly or indirectly induce substantial growth beyond what has been anticipated by the City's General Plan. The project proposes the construction of 264 multi-family dwellings on a site that is mostly undeveloped and contains a motor home. Assuming 2.75 persons[21] per household, the projected population increase from the proposed project would be approximately 726 persons. The projected population does not constitute a substantial increase and remains sufficiently below the General Plan 2025 population projections. The proposed project site is surrounded by residential and commercial uses to the north; a business park and city park to the east; Petaluma River and industrial uses to the south; and Rocky Memorial Dog Park and open space to the west. The project is not expected to promote further development beyond what is proposed for the project site. The extension of utilities will be limited to provide services to the subject property 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 Person Displacement) Less Than Significant Impact: At present the project site is mostly undeveloped. As such, the project will not displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere. The project implements the City's Housing Element by contributing 264 multi-family dwellings to the existing housing stock within the City of Petaluma. Therefore, the project will have less than significant impacts due to the displacement of people or existing housing.

Mitigation Measures: None required.

4.15 PUBLIC SERVICES

Would the Project:	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.

[21] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2011-2019 with 2010 Census Benchmark, May 2019.

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 area with existing residential and commercial development that is well served by public services. The increase in residents from the proposed project is expected to increase demands for police and fire service. However, new demands on fire and police services from residential development have been previously anticipated as part of General Plan build-out and are accounted for with the City Facilities Development Impact Fee 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 located approximately 1 mile from Fire Station 3, at 831 S McDowell Boulevard, and approximately 2 miles from Fire Station 1, located at 198 East D Street. The project is within the response radii of both fire stations (General Plan EIR Figure 3.4-2) and travel time is achievable within the targeted 4 minutes. The project is consistent with the General Plan 2025 because of the redundancy of approach access, the ability of emergency response vehicles to override traffic controls with lights, sirens, and signal pre-emption, and their ability to travel in opposing travel lanes in congested conditions.

The project, as proposed, also includes an emergency vehicle access (EVA) roadway from the site's northeast boundary, extending through the existing parking lot, and connecting to the cul-de-sac at the terminus of Technology Lane. The purpose of the EVA is to provide a secondary means of access for emergency personnel (e.g., fire, ambulance), in addition to the primary access at Casa Grande Road. The addition of project trips to the adjacent grid street network is not expected to cause a reduction in travel speeds sufficient to cause significant delays for emergency vehicles.

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 shall pay all development impact fees applicable to a residential development, including a facilities fee to pay for identified fire/police facility improvements. These funds are sufficient to offset any cumulative increase in demands to fire and police protection services and ensure that impacts from new development are less than significant.

4.15 (c) (Schools) Less Than Significant Impact: The Project will not result in substantial adverse physical impacts or require new school facilities. The project site is located within the Old Adobe Union School District; the nearest school to the subject project site is Miwok Valley Elementary School, located approximately 0.5 mile to the northwest. The General Plan projects that the Old Adobe Union School District will experience a minimal 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. Based on current capacities, sufficient school facilities are in place to accommodate an increase in enrollment associated with development of the proposed Project. 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 5 acres of parkland per 1,000 residents. There are existing public open space areas located in close proximity to the project site, including Rocky Memorial Dog Park to the west and Shollenberger Park to the east. The Marsh Trail is adjacent to the southeast boundary of the project site and connects to existing public trails in the vicinity.

The project proposes onsite recreational amenities including play areas for children, common open spaces, and

onsite public paths that connect to the existing public trails in the site vicinity. Existing park facilities and proposed onsite amenities 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 subject project. Therefore, impacts to park lands due to the 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 any other public facilities. The project area is surrounded by established mixed-use development and is well served by existing public services. 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.

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: City of Petaluma General Plan 2025 and EIR.

Recreation Setting

The City of Petaluma offers a variety of passive and active recreation 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 Petaluma city limits, is owned and operated by the California State Parks Department. The 256-acre Helen Putnam Regional Park, located to the southwest of the city, is managed by the Sonoma County Regional Parks Department. In the vicinity of the project, the existing Alman Marsh trail, located immediately south of the project site, provides pedestrian connectivity to the Alman Marsh recreational area and the trails within Shollenberger Park.

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.

Recreation Impact Discussion

4.16 (a) (Park Deterioration) Less Than Significant Impact: The project will result in an incremental increase in the use of nearby parks including Rocky Memorial Dog Park (0.1 mile), Miwok Park (1 mile), Del Oro Park (1 mile), and Shollenberger Park (1 mile) as well as designated open space areas. The project's contribution to increased park use 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 its incremental increase in the use of such areas. 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 project includes a public Class I multi-use path along the northern boundary of the project site for pedestrian and bicycle uses. The project also includes a public recreation trail along the eastern boundary of the project site, which would connect to the adjacent Alman Marsh Trail and the trails in the vicinity along the Petaluma River waterfront. The project also includes onsite recreational areas including children play areas, outdoor spaces, and a pool for residents. All elements of the project including onsite recreational amenities and public trails are analyzed throughout this document. Because the project will not induce substantial population growth and is within the population growth anticipated in the General Plan, there is little expectation that it would put further pressure on recreational amenities thereby requiring construction or expansion of such facilities. Therefore, impacts are expected to be less than significant as a result of the proposed project.

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) 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 2025 and EIR; GP Figure 5-1; Traffic Impact Study, prepared by W-Trans, November 22, 2019; and Addendum to the Riverview Project Traffic Impact Study, prepared by W-Trans, June 18, 2020.

Transportation Setting

The City of Petaluma is bisected by U.S. 101, which serves as the primary route between San Francisco and Marin and Sonoma Counties. U.S. 101 accommodates over 92,000 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. The city establishes a goal of maintaining a LOS 'D' or better (General Plan Policy 5-P-10). Pursuant to SB 743,[22] the Office of Planning and Research (OPR) was charged with identifying an alternative metric to LOS for evaluating environmental impacts from transportation. In December 2018 the OPR released the Technical Advisory on Evaluating Transportation Impacts in CEQA,[23] which provides technical recommendation regarding assessment of vehicle miles traveled (VMT) as an alternate to LOS, thresholds of significance for VMTs, and mitigation measures.

Pursuant to Government Code Section 15064.3(b), lead agencies have discretion to 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

[22] California Code of Regulations, Title 14, Div. 6, Ch. 3, § 15000 et seq.
[23] http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

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 project, the City of Petaluma is relying upon recommendations set forth in OPR's Technical Advisory.

CEQA Guidelines section 15064.3 subdivision (b) describes specific considerations for evaluating a project's transportation impact using a vehicle miles traveled (VMT) metric. This metric refers to the amount and distance of automobile travel attributable to a project. OPR's CEQA Guidelines indicate that a residential project generating vehicle travel that is 15 percent or more below the existing citywide residential VMT per capita may be an appropriate VMT threshold and is applied here to assess level of significance.

Based on available information from the Sonoma County Transportation Authority, SCTA, the City of Petaluma has a baseline average residential VMT of 16.62 miles per capita. Using the 15 percent below or more threshold, a project generating 14.13 miles per capita or less would result in less than significant impacts to VMTs.

The General Plan EIR determined that implementation of the General Plan would result in less than significant impacts from an increased demand for transit service and safe bicycle parking. General Plan policies 5-P-40 through 5-P-45 support the expansion of the bus transit system and the location of transit-oriented development along transit corridors. General Plan policy 5-P-31 requires future development to provide bicycle support facilities.

W-Trans prepared a Traffic Impact Study to evaluate the project's potential to impact pedestrian, bicycle and traffic safety, level of service (LOS) standards, access, and/or introduce conflicts with the General Plan (**Appendix L**). As described above, LOS is no longer used to evaluate environmental impacts and is not presented in this analysis. Rather, as described above, VMT is used to evaluate potential environmental impacts under CEQA Guidelines Section 15064.3 subdivision (b). W-Trans prepared an Addendum to the Traffic Impact Study to evaluate the project's potential to result in impacts due to VMTs generated by the proposed project (**Appendix M**).

The Traffic Impact Study (TIS) prepared for the project addresses operating conditions at the following eight study intersections:

1. Lakeville Street/East Washington Street
2. Lakeville Street/East D Street
3. Lakeville Street/Caulfield Lane
4. Lakeville Highway/US 101 South Ramps
5. Lakeville Highway/US 101 North Ramps
6. Lakeville Highway/Baywood Drive
7. Lakeville Highway/Casa Grande Road
8. Lakeville Highway/McDowell Boulevard South

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the project. Pedestrian facilities in the immediate vicinity of the project site include:

- *Lakeville Highway (SR-116)* – There are no sidewalks along the south side of Lakeville Highway from approximately 250 feet east of Marina Avenue to Casa Grande Road, while continuous sidewalk is provided east of Casa Grande Road which provides pedestrian access to the transit stop just east of Lakeville Highway/Casa Grande Road. The north side of Lakeville Highway in the project vicinity generally includes only a narrow dirt pathway, except for an approximately 300-foot section of sidewalk connecting to a transit stop just east of the Lakeville Highway/Casa Grande Road intersection. Lighting is provided by overhead street lights.

- *Casa Grande Road* – Continuous sidewalks exist along the eastside of Casa Grande Road, but there are no sidewalks along the project frontage. Approximately 385 feet of sidewalk is provided along the west side of Casa Grande Road south of Lakeville Highway, with no pedestrian facilities to the south. Lighting is provided by overhead street lights.

Bicycle Facilities

In the project area, Class II bike lanes exist on Casa Grande Road between Technology Lane and Ely Boulevard. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Planned bicycle facilities in the project vicinity include:

- Class I Multi-Use Path along the Northwestern Pacific Railroad from D Street to Adobe Creek;
- Class II Bike Lane along Lakeville Highway from D Street to the City Limits; and
- Class II Bike Lane along Casa Grande Road from Technology Lane to Rocky Memorial Dog Park.

Transit Facilities

Three separate transit agencies provide regular service to the City of Petaluma: Petaluma Transit, Sonoma County Transit, and Golden Gate Transit.

- *Petaluma Transit* – provides fixed route bus service in the City of Petaluma. Route 24 provides loop service to destinations throughout the City with stops near the project site at Lakeville Highway/Casa Grande Road. Route 24 operates Monday through Friday with approximately one-hour headways between 6:15 a.m. and 7:09 p.m.
- *Petaluma Transit* – Route 3 provides clockwise loop service to the communities in Petaluma north and east of US 101, with a stop near the project site at South McDowell Boulevard/Casa Grande Road. Route 3 operates Monday through Friday with approximately one-hour headways between 6:30 a.m. and 7:55 p.m.
- *Petaluma Transit* – Route 33 provides counter-clockwise loop service complimentary to Route 3, with a stop near the project site at South McDowell Boulevard/Casa Grande Road. Route 33 operates seven days a week, with approximately one-hour headways between 7:00 a.m. and 8:25 p.m. on weekdays, 8:00 a.m. to 8:25 p.m. on Saturdays, and 9:00 a.m. to 5:25 p.m. on Sundays.
- *Sonoma County Transit* – provides regional service between Petaluma and surrounding communities. Routes 40 and 53 travel between the City of Petaluma and City of Sonoma, with stops on Lakeville Highway at Casa Grande Road. Routes 40 and 53 operate Monday through Friday during morning and evening peak hours with approximately 30- to 90-minute headways between 6:30 a.m. and 6:55 p.m.
- Golden Gate Transit – provides regional service between San Francisco and the North Bay, including Petaluma. Route 76 travels between East Petaluma and San Francisco and has stops at South McDowell Boulevard/Casa Grande Road and Lakeville Highway/Marina Avenue. Route 76 operates Monday through Friday during morning and evening peak hours with approximately 30- to 60-minute headways between 4:55 a.m. and 7:19 p.m.

Two or three bicycles can be carried on most Petaluma Transit, Sonoma County Transit and Golden Gate Transit buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on Petaluma Transit buses at the discretion of the driver. Petaluma Paratransit is available for those who are unable to independently use the transit system due to a physical or mental disability. Paratransit is designed to serve the needs of individuals with disabilities within Petaluma and the greater Petaluma area.

Transportation Impact Analysis

4.17 (a) (Conflicts with Plans, Policies, Ordinances) Less Than Significant Impact: As detailed in the Traffic Impact Study (**Appendix L**), the anticipated trip generation for the proposed project was estimated using standard

rates published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual, 10th Edition, 2017 for multifamily housing (low rise) (ITE Land Use #220). As presented in Table 12 below, the Project will generate 1,932 daily trips including 121 am peak hour trips and 148 pm peak hour trips.

Table 12 : Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Apartments	264 du	7.32	1,932	0.46	121	0.56	148

Source: Table 7, p.22, Traffic Impact Study, W-Trans, November 22, 2019.

General Plan policy 5-P-10 specifies that level of service (LOS) should be maintained at Level D or better for motor vehicles due to traffic from any development project. As described above, LOS is no longer used to assess environmental impacts and instead VMT is relied upon. However, the project's Traffic Impact Study includes a level of service analysis and evaluation of General Plan policy 5-P-10.

Existing Plus Project Conditions

Upon the addition of project-related traffic to the existing volumes, the study intersections are expected to operate similarly to Existing Conditions. At Lakeville Street/East Washington Street and Lakeville Street/East D Street, already unacceptable operations are expected to maintain their deficient LOS grade E. Operations at Lakeville Highway/Baywood Drive are expected to slightly improve due to added east-west through traffic utilizing excess capacity from the coordinated system along Lakeville Highway. These results are summarized in Table 13.

As intersections are already operating at LOS E without the project and would not further degrade under the Existing Plus Project Condition, the project is not introducing a new conflict with the City's level of service policy. However, the project will contribute to an existing exceedance of the City's level of service policy in General Plan Policy 5-P-10 since study area intersections already operate at LOS E, which is below the City's LOS standard. As described above, this deficiency is not an environmental impact of the project.

Table 13: Existing and Existing Plus Project Peak Hour Intersection LOS

Study Intersection	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lakeville St/East Washington St	50.6	D	**55.3**	**E**	51.0	D	**55.7**	**E**
2. Lakeville St/East D St	**75.2**	**E**	**75.0**	**E**	**75.9**	**E**	**78.6**	**E**
3. Lakeville St/Caulfield Ln	24.0	C	31.0	D	24.1	C	31.1	D
4. Lakeville Hwy/US 101 South Ramps	48.0	D	47.6	D	48.7	D	48.1	D
5. Lakeville Hwy/US 101 North Ramps	9.6	A	14.7	B	9.8	A	14.9	B
6. Lakeville Hwy/Baywood Dr	49.9	D	**55.1**	**E**	53.0	D	49.6	D
7. Lakeville Hwy/Casa Grande Rd	10.6	B	11.1	B	12.0	B	12.3	B
8. Lakeville Hwy/McDowell Blvd South	37.8	D	50.9	D	37.6	D	50.9	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Pipeline Plus Project Conditions

With project-related traffic added to Pipeline volumes, and with the Pipeline Conditions signal phase modifications, the study intersections are expected to operate similarly to Pipeline Conditions. Operations at the Lakeville

Hwy/Baywood Dr intersection improve slightly under pipeline conditions relative to existing condition due to added east-west through traffic utilizing excess capacity from the coordinated system along Lakeville Highway. As shown in **Table 14**, the project adds vehicle trips (and thus delay) to Lakeville Street/East Washington Street and Lakeville Street/East D Street, which are already operating at LOS F, thereby contributing to an existing exceedance of the City's level of service policy. Improvements to the roadway system that might correct the LOS deficiency such as roadway widening might negatively impact multimodal circulation, especially considering the SMART station adjacent to these two intersections as well as right-of-way constraints due to the existing SMART tracks. And such improvements would run contrary to policy stated in the General Plan such as 5-P-1, which provides for an interconnected mobility system that allows travel on multiple routes by multiple modes. Under pipeline conditions the project will contribute to an existing exceedance of the City's level of service General Plan Policy 5-P-10 since study area intersection operate at LOS E and F, which is below the City's LOS standard. As described above, this deficiency is not an environmental impact of the project.

TABLE 14: PIPELINE AND PIPELINE PLUS PROJECT PEAK HOUR INTERSECTION LOS

Study Intersection	Pipeline Conditions				Pipeline plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lakeville St/East Washington St	**64.5**	**E**	**92.3**	**F**	**66.3**	**E**	**94.0**	**F**
2. Lakeville St/East D St	**80.9**	**F**	**124.1**	**F**	**84.3**	**F**	**128.5**	**F**
3. Lakeville St/Caulfield Ln	32.9	D	45.7	D	33.0	C	46.3	D
4. Lakeville Hwy/US 101 South Ramps	45.0	D	49.1	D	45.5	D	49.4	D
5. Lakeville Hwy/US 101 North Ramps	12.2	B	27.9	C	12.3	B	30.8	C
6. Lakeville Hwy/Baywood Dr	42.0	D	51.6	D	44.1	D	48.3	D
7. Lakeville Hwy/Casa Grande Rd	10.4	B	10.9	B	11.8	B	12.0	B
8. Lakeville Hwy/McDowell Blvd South	37.7	D	50.3	D	37.8	D	50.4	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Future Plus Project Conditions

As shown in **Table 15,** with the addition of project-generated traffic to future volumes, and with optimized signal timing, study intersections would operate at the same levels of service grade without the project. The delay is expected to increase at the intersections of Lakeville with East Washington Street, D Street, Caulfield Lane and McDowell Boulevard South, which already exceed level of service requirements under General Plan policy 5-P-10 even without the project. Again, this deficiency is not an environmental impact of the project.

TABLE 15: FUTURE AND FUTURE PLUS PROJECT PEAK HOUR INTERSECTION LOS

Study Intersection	Future Conditions				Future plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lakeville St/East Washington St	**59.0**	**E**	**86.2**	**F**	**59.8**	**E**	**87.3**	**F**
2. Lakeville St/East D St	**89.5**	**F**	**106.2**	**F**	**90.9**	**F**	**108.6**	**F**
3. Lakeville St/Caulfield Ln	49.3	D	**78.4**	**E**	50.3	D	**79.7**	**E**
4. Lakeville Hwy/US 101 South Ramps	42.5	D	49.1	D	43.0	D	49.4	D

5. Lakeville Hwy/US 101 North Ramps	13.6	B	25.1	C	13.7	B	25.7	C
6. Lakeville Hwy/Baywood Dr	51.5	D	51.3	D	49.7	D	52.4	D
7. Lakeville Hwy/Casa Grande Rd	17.5	B	15.7	B	18.5	B	16.9	B
8. Lakeville Hwy/McDowell Blvd South	**63.9**	**E**	53.9	D	**65.6**	**E**	53.9	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Transit, Bicycle and Pedestrian Facilities

Public pedestrian, bicycle, and transit facilities in the project vicinity will not be substantially impacted by the proposed development. Given the proximity of good and services to the north, east, and west of the site, it is reasonable to assume that some project residents would want to walk, bicycle, and/or use transit for trips to and from the project site. No sidewalks exist along the project frontage on the eastside of Casa Grande Road. However, the proposed project includes the installation of a new sidewalk on Casa Grande Road, along the frontage of the project site. Existing sidewalks extend the length of Casa Grande Road on the east side of the roadway to Lakeville Highway. Additionally, the project will introduce onsite pedestrian amenities including sidewalks along private streets, a public multi-use path along the north property line, and a recreational trail along the east property line. New pedestrian improvements introduced by the project provide adequate connectivity to existing sidewalks and trail in the side vicinity including along Casa Grande Road, Technology Lane, and the adjacent Alman Marsh Trail. Therefore, pedestrian facilities serving the project site would be adequate and impacts would be considered less than significant.

There are no existing bicycle facilities on Casa Grande Road from Technology Lane to the project frontage, or along westbound Technology Lane from the northeastern corner of the subject property to Telecom Lane. As such, existing bicycle facilities serving the project site on Casa Grande Road and Technology Lane are inadequate. As a project condition of approval, the project will be required to install the planned Class II bike lane on Casa Grande Road along the project site frontage and extending to Technology Lane. The project includes the construction of an onsite Class I multi-use public path along the northern boundary, as well as a recreational trail along the eastern boundary. Bicycle racks will be installed at each of the building's covered stairwell areas, at the play areas in each park area, and at the recreation center. The bicycle racks on the project site will be able to accommodate approximately 106 bicycles in addition to utilizing private garages for bicycle storage and parking. With project implementation bicycle facilities onsite and in the immediate vicinity will comply with the City's Pedestrian and Bicycle Plan. Therefore, the project would have less than significant impacts related to bicycle facilities.

Existing transit routes are expected to adequately accommodate project-generated transit trips with the improvements to pedestrian connections. Existing bus stops are located approximately 0.3 miles to the east of the site on South McDowell Boulevard and on Lakeville Boulevard approximately 0.25 miles from the project site. Existing and proposed sidewalks and the proposed multi-use path provide safe pedestrian connectivity. As such, existing transit facilities are accessible from the project site located within acceptable walking distance of the site. Transit facilities serving the project site are considered to be adequate with the improvements to pedestrian connections as proposed. Therefore, the project would have less than significant impacts related to transit facilities.

The proposed project will introduce a total of 514 onsite parking spaces including 283 garage spaces and 231 uncovered spaces. The City's IZO, Section 11.060, Table 11.1 requires 1 parking stall per bedroom and not less than 1.5 parking stall per unit. The project proposes to introduce a total of 514 bedrooms.[24] To comply with the City's standards the project is required to introduce 514 parking stalls and no fewer than 396 stalls. The project exceeds the required parking supply based on the standard of 1.5 parking stall per unit and meets the requirement of 1 stall per bedroom. Therefore, the project is consistent with the City's parking requirements.

[24] The project proposes to introduce 188 2-bedroom units, 31 3-bedroom units, and 45 1-bedroom units, for a total of 514 bedrooms per the Architectural Plan Set.

Overall, the project is generally consistent with General Plan policies regarding circulation including the City's Bicycle and Pedestrian Plan. Further, the project is conditioned to install Class II Bike Facility along Casa Grande Road from the project site to Technology Way. Therefore, there would be less than significant impacts due to a conflict with transportation related plan, policies, and ordinances.

4.17 (b) (Conflict with 15064.3(b) VMT) Less Than Significant: The proposed project is located within traffic analysis zone (TAZ) 306, which has a baseline VMT per capita of 14.31 miles. As described above, in order to fall below the VMT threshold of significance, 15 percent below the citywide average (14.13 miles per capita), the project would need to be 1.3 percent lower than the current TAZ per capita average.

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, 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. For purposes of the VMT analysis, the project was determined to have a residential density of approximately 18 units per acre. Based on the proposed density, the project is eligible for a 0.74 adjustment based on the project's 5.2% VMT reduction as compared to the TAZ. As described in the VMT Assessment with the density reduction, the project-specific VMT per capita is estimated to be 13.57, 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: The project site would be accessed via a driveway located on the east side of Casa Grande Road, approximately 1,100 feet south of Lakeville Highway. Sight distance along Casa Grande Road at the project driveway location was evaluated based on sight distance criteria contained in the Highway Design Manual published by Caltrans. The recommended sight distances for driveways are based on stopping sight distance, which use the approach travel speed as the basis for determining the recommended sight distance.

The stopping sight distance criterion for private street intersections was applied for evaluation purposes. Based on a design speed of 35 mph, the minimum stopping sight distance needed is 250 feet. A review of the field conditions showed that the sight distance from the project driveway location is more than adequate. Adequate sight lines are also required for drivers following a vehicle entering the site via either a left or right turn; a review of field conditions determined that visibility along Casa Grande Road is more than the recommended 250 feet.

As described in the TIS, to maintain adequate sight lines for vehicles leaving the site, it is recommended that landscaping be planned such that tree canopies are at least seven feet above the ground; other landscaping should be limited to low-lying vegetation no greater than three feet in height. In addition, signs and monuments planned along the project's frontage should be placed in a manner that does not obstruct sight distance at the project driveway.

As a condition of project approval, landscaping along the project frontage shall be maintained such that foliage stays above seven feet and below three feet from the ground. In addition, as a condition of approval, signs, or monuments to be installed along the project frontage should be placed so that sight distance is not obstructed at the project entrance. Therefore, sight distance is expected to be adequate at the project driveway on Casa Grande Road. The proposed project would not introduce any geometric design feature hazards. Therefore, impacts related to design hazards would be less than significant.

4.17 (d) (Emergency Access) Less Than Significant: The project's access driveway has been reviewed by the Petaluma Public Works and Fire Departments. Emergency vehicle access is provided from the primary access point off Casa Grande Road. A secondary emergency vehicle access (EVA) driveway would be installed at the northeast corner of the subject property, extending offsite through the existing parking lot to the east, and connecting to the cul-de-sac at the terminus of Technology Lane. Site circulation was determined to be adequate, including sufficient driveway width to allow for fire truck access to the proposed apartment buildings. Therefore, the project's potential to result in impacts due to 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; Tom Origer & Associates, Cultural Resources Study (Confidential) for the Baywood Village Apartments Project, Petaluma, Sonoma County, California, June 27, 2018; and Cultural Resources Letter Report (Confidential), prepared by Analytical Environmental Services, August 27, 2020.

Tribal Cultural Resources Setting

As presented in Section 4.5 Cultural Resources above, a Cultural Resources Report was prepared by Origer & Associates that analyzes the potential for the project to impact cultural and tribal cultural resources. The report includes previously conducted site studies and recorded cultural resources discovered in the project area. As presented therein, the project site is located in the vicinity of the Petaluma River and has been heavily disturbed from past activities associated with former onsite uses including the Casa Grande Landfill and the Royal Tallow & Soap Company.

In accordance with PRC Section 21080.3.1(d), the City of Petaluma provided notice to Federated Indians of Graton Rancheria (FIGR) in a letter dated July 9, 2019, 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. On July 23, 2019, FIGR replied to the City of Petaluma requesting formal consultation under Public Resources Code section 21080.3.1. The City of Petaluma responded to FIGR's request for formal consultation on July 29, 2019 and provided additional materials to inform the consultation process. On October 1, 2019 a consultation meeting was held between City staff and the FIGR. FIGR expressed concerns regarding the project site's elevated potential to contain buried tribal cultural resources and requested that an onsite monitor be present during ground disturbance, that native plantings be used in landscaping (specifically black oaks),

and that public access to open space land proximate to the Petaluma River be retained. The project design includes public access trails and the supplemental planting plan provides for planting of Black Oaks consistent with input received through tribal consultation. Tribal consultation is understood to have been completed to the satisfaction of FIGR.

Tribal Cultural Resources Impact Analysis:

4.18 (ai- aii) (Listed or Eligible for Listing) Less than Significant with Mitigation: The Cultural Resources Report evaluated past studies and reports that have documented the existence of Native American resources onsite and in the project site vicinity. Although the past studies and a pedestrian survey did not yield potentially eligible tribal cultural resources, due to known resources in the vicinity it was determined that the project site holds an elevated potential to contain buried resources. The pedestrian site survey yielded negative results for tribal cultural resources, noting that most of the soils have been previously disturbed by past uses and fill importation.

Despite negative results, the project site's proximity to known resources elevates the potential for the site to contain buried tribal cultural resources. Although no known archeological deposits would be encountered by onsite construction as proposed, excavation, trenching and grading activities would encounter undisturbed native soils, which have the potential to contain buried cultural resources. If eligible buried resources were present, construction activities from the proposed project could result in adverse impacts to tribal cultural resources. In order to avoid inadvertently causing a substantial adverse change in the significance of an archaeological resource, **Mitigation Measure CUL-1,** set forth above, provides for monitoring procedure during construction and **Measure CUL-2** provides for treatment in the event that resources are uncovered. Therefore, with implementation of measures CUL-1 and CUL-2 potential impacts to tribal cultural resources onsite will be reduced to less than significant levels.

As described above under Section 4.5 Cultural Resources, the offsite wetland area adjacent to Adobe Creek, on a portion of the former Adobe Creek Golf Course is known to contain prehistoric archeological sites. Due to past construction and operation of the golf course any resources within the area of potential effect may have been previously damaged making them ineligible for listing on the National Register of Historic Places. Nonetheless, construction of the offsite wetlands has the potential impact listed or eligible tribal cultural resources. The offsite wetland concept plan is designed to avoid known resources by incorporating a 50-foot buffer. Additionally, Mitigation **Measure CUL-1** requires the presence of a qualified professional archeologists for monitoring during grading and ground disturbance and **Measure CUL-2** identifies procedures in the event that potential resources are uncovered. Furthermore, the project is subject to a 404 Clean Water Act permit from the Army Corp of Engineer, which requires Section 106 consultation in accordance with the National Historic Preservation Act. Therefore, with mitigation measures presented herein and compliance with regulatory permits, potential impacts to tribal cultural resources will be reduced to less than significant levels.

Mitigation Measures: Implement Measure CUL-1 and CUL-2.

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; Water Resource and Conservation 2015 UWMP; Sonoma County Water Agency 2015 UWMP; Water Distribution Calculations, prepared by Steven J. Lafranchi & Associates, August 28, 2018; Sanitary Sewer Calculation, prepared by Steven J. Lafranchi & Associates, September 6, 2018; Storm Drain Calculations, prepared by Steven J. Lafranchi & Associates, September 7, 2018; and BASMAA Storm Water Control Plan, prepared by Steven J. Lafranchi & Associates, May 1, 2019.

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 supplemented with local groundwater. Water from the Russian River Water System is obtained via the Petaluma Aqueduct through a contract with the Sonoma County Water Agency (SCWA). 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 urban Water Use through the year 2040, and a description of programs to achieve the target demand reductions.

Based on the evaluation of future Russian River supply including, minimum in-stream flow requirements, SCWA 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 minimized 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.

Additionally, a Preliminary Water Distribution Calculations report was generated for the project by Steven J. Lafranchi and Associates, Inc. This analysis measured the water pressure of the water main connections to the site and concluded that as designed the system would function adequately without the need for booster pumps.

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.

A Preliminary Sanitary Sewer Calculations report was prepared for the project by Steven J. Lafranchi and Associates, Inc. The analysis reviewed the capacity of the existing 27-inch diameter sanitary sewer trunk main along the north edge of the project site. It was determined that the full flow capacity of the trunk main was 10.8 cubic feet per second and current flows represent approximately 45% of the available capacity.

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 Storm Drain Calculation, a Preliminary LID and Post Construction Stormwater Plan, and a BASMAA Storm Water Control Plan. The Stormwater Control Plan describes the operation of an onsite 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 pretreat runoff prior to discharge. The Preliminary Storm Drainage Calculation evaluates the capacity of the project's stormwater plan to accommodate the stormwater runoff from a 10-year and 100-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 will not require or result in the relocation or expansion of offsite utilities. Existing water, wastewater, electric power, natural gas, and telecommunications facilities will be extended to the project site from Casa Grande Road and have sufficient capacity to serve the proposed development. The project will not result in significant environmental impacts due to the expansion of utilities or construction of new utilities as improvements are limited to activities onsite and along the site frontage at Casa Grande Road.

Currently, there is no storm drain system located within the project site. The proposed Riverview Apartments project will increase the amount of impervious surfaces onsite from the new buildings, roadways, and parking areas, relative to existing conditions. Stormwater from the new impervious surfaces introduced by the project would be collected and routed to bio-retention areas throughout the site, allowing for pretreatment and infiltration prior to discharge. Stormwater would be routed to new storm drains within the project site and discharged to new outfalls along the western and eastern limits of the site, following the historic drainage pattern. As stated in the Storm Drain Calculations report, the proposed storm drainage system is adequately distributed to remove storm waters without flooding. The report concluded that runoff from the 10-year storm and 100-year storm will stay within the drainage structures.

Proposed LID measures include tree plantings and bio-retention areas that will capture stormwater runoff during precipitation events and provide for treatment and filtration of stormwater runoff onsite prior to release. With the proposed LID measures and compliance C.3 stormwater requirements, the project will not significantly increase runoff relative to the existing condition and no new stormwater facilities are anticipated. The environmental impacts associated with the proposed storm drains and bio-retention areas have been evaluated throughout this document and will be subject to conditions of approval and mitigation measures set forth herein. Therefore, the project is expected to result in 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).[25] As presented in the City's UWMP the SB X7-7 GPCD target for the City of Petaluma, was 130.74 for the year 2018.[26] As such, the City is meeting the planned GPCD target and available Sonoma Water supplies, will be sufficient to meet demand of the project and existing and planned demands through 2035 as set forth in the 2015 UWMP.

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. Water demand for buildout of the General Plan is projected to be 9,435 acre-feet per year.[27] 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 an annual SCWA 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 SCWA supply capacity. The projected demand is less than 10,000 acre-feet.[28] Tiered water rates, conservation efforts, and the conversion of Rooster Run Golf Course to recycled water have in recent years kept annual and peak demands within the available SCWA 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 associated with the project site are captured in the 2015 UWMP for future year conditions. The project will be subject to the latest California Building Code requirements including plumbing and water efficiency standard 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: Wastewater generated by the project is within the expected conveyance and treatment capacity anticipated by the General Plan and will not require the expansion of treatment facilities. Applicable City Wastewater Capacity fees will be collected from the applicant to fund the project's share for use of existing 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 domestic water or wastewater facilities as part of the proposed project. The project will direct effluent to the existing sewer trunk main within Casa Grande Road and will install onsite sewer pipelines, manholes, laterals, and tie-ins to collect and convey wastewater offsite. All wastewater generated onsite will be process through the City's municipal sanitary sewer system and treated at the Ellis Creek Water Recycling Facility.

As presented in the Sanitary Sewer Calculation report, the trunk main in Casa Grande road has sufficient capacity to convey existing effluent in addition to the effluent generated by the project. The project is estimated to increase the existing wastewater flow to the trunk main by 8%. With the project's contribution to wastewater the existing trunk main in Casa Grande Road would operate at 53% of the full flow capacity. As such there is adequate capacity in the existing sewer main to accommodate development of the project.

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25 Water Usage Summary February 2019, City of Petaluma Department of Public Works.
26 City of Petaluma 2015 UWMP page 23.
27 City of Petaluma 2015 UWMP Table 3-6, Total Water Demands.
28 Item 4(B) of June 1, 2015 City Council agenda (http://cityofpetaluma.net/cclerk/archives.html).

As a 264-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 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: During site preparation, gravel surfaces, construction debris, concrete, and asphalt will be removed. Vegetation onsite and contaminated soils will be removed and treated to accommodate development. Eucalyptus trees along the site's western margin will be removed as part of the soil remediation process. Tree along the northern property line will be removed to accommodate the proposed project. Soil, vegetation, and woody debris will be off hauled during construction and disposed of at an appropriate facility. As described in Section 4.9 Hazards/hazardous materials, remediation activities will be conducted in accordance with the Clean Closure Plan and includes the proper handling and disposal of contaminated soils and compliance with federal, state, and local statutes and regulations.

Policy 4-P-21 requires waste reduction in compliance with the Countywide Integrated Waste Management Plan (ColWMP). Nonhazardous 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. Accordingly, impacts associated with construction waste will be less than significant.

The proposed project, consisting of the development of 264 multi-family dwelling units, will contribute to the generation of solid waste. However, as a residential project the amount of solid waste generated is consistent with the service needs anticipated by the Petaluma General Plan and evaluated in the General Plan EIR.

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.

Recology has recommended a trash and recycling capacity of 1.5 cubic yards per 5 dwelling units. As a 264-unit development the project would generate a capacity of 79.2 cubic yards for waste management. The project proposed 11 debris enclosures located throughout the project site with each contains one 4-yard trash container and one 4-yard recycling bin. As such, the project provides for 88 cubic yards of capacity, which is sufficient to meet the weekly waste volume generated by the project. Recology pick up frequency is anticipated to be 3 times a week and can be increased as needed. Prior to issuance of occupancy the project will finalize a waste management plan with Recology.

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: City of Petaluma General Plan 2025 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, and climatic conditions, particularly along the edges of the City. The areas most susceptible to fire hazards are located near the wildland urban interface at the City margins. 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 36,800 acres in Sonoma County. Residents were exposed to direct effects of the wildfire, such as the loss of a structure, and to the secondary effects of the wildfire, such as smoke and air pollution. Smoke generated by wildfire 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 wildfire include difficulty in breathing, odor, and reduction in visibility.

Since 2017 wildfires have continued to increase in frequency and severity, posing increased risk from direct and indirect effects including loss of life, property, and habitat.

Wildfire Impact Analysis

4.20 (a-d) (Impair Emergency Plan, Expose Occupants to Wildfire Pollutants, Require Infrastructure, Pose Wildfire Related Risks) Less Than Significant Impact: The project site is categorized as a Non-VHFHZ by CAL FIRE and surrounded by urban uses and marshland (**Figure B-6** in **Appendix B**). The project is not located in or adjacent to state responsibility areas of lands classified as very high fire hazard severity zones. The nearest state responsibility area is located approximately 0.5 mile from the project site. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. 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)

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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: The project is located within the City of Petaluma's UGB and surrounded on three sides by established urban uses. The proposed development on the project site is consistent with the General Plan Land Use and generally complies with the goals, policies, and programs outlined in the General Plan and the provision of the zoning code.

As presented throughout this analysis the project has the potential to result in temporary and permanent impacts to environmental resources. However, with standard conditions of approval and implementation of mitigation measures identified herein, potential impacts of the project 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 substantially reduced, or offset through mitigation measure and compliance with state and federal permits. The project's potential impacts due to possible presence of special-status avian species, salt marsh harvest mouse, western pond turtle, red legged frog, and fill to wetlands will be reduced to less than significant levels.

The Hazards/Hazardous Materials, Hydrology and Water Quality and the Geology discussions identify measures to avoid and minimize potential environmental impacts associated with water quality, flooding, and soil stability. Site cleanup and remediation activities, once complete will improve conditions by removing contaminants from onsite soils, wetlands, and precluding further spread of contamination into adjacent natural habitats and marshlands. Stormwater and LID improvements introduced by the project ensure that all runoff is treated through bioretention areas prior to being discharged. Therefore, development of the project site will not degrade the quality of environment due to runoff sediment loads or contamination.

The Cultural Resources discussion identifies measures to ensure that potential impact to buried cultural resources are avoided. 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 implementation of mitigation measures described herein, the project will not degrade the quality of the environment, reduce habitat, or affect cultural resources. Therefore, with mitigation the project's impacts due to degradation of the environment will be reduced to less than significant levels.

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 project is a multi-family residential development, consistent with the density anticipated by the General Plan, cumulative impacts will be less than significant.

The project is consistent with the land use immediately to the north and implements the intent of the UGB through the development of an underutilized parcel 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 With Mitigation: The project has the potential to result in adverse impacts to humans due to air quality, biological resources, geology and soils, noise, hazardous materials 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, with implementation of mitigation measures the project's impacts due to substantial adverse effects on human beings will be reduced to less than significant levels.

Mitigation Measures: None required.

5. REFERENCE DOCUMENTS

5.1. TECHNICAL APPENDICES

A. Arborist Revised Report and Mitigation Summary, prepared by Becky Duckles, September 10, 2020.

B. Riverview Project Site Graphics.

C. Air Quality and Greenhouse Gas Assessment, prepared by Illingworth & Rodkin, February 1, 2019.

D. Biological Assessment Report, prepared by WRA Environmental Consultants, September 2020.

E. Preliminary Habitat Mitigation Monitoring Plan, prepared by WRA, Inc., December 2019 Revised May 2020.

F. Cultural Resources Study, prepared by Tom Origer & Associates, June 27, 2018. (Confidential)

G. Cultural Resources Letter Report, prepared by Analytical Environmental Services, August 27, 2020 (Confidential)

H. Soil Engineering Consultation Report, prepared by Reese & Associates, July 2, 2018.

I. Soil Investigation Report, prepared by Giblin Associates, May 16, 2008.

J. Phase I Environmental Site Assessment, prepared by AEI Consultants, December 4, 2018.

K. Environmental Noise Assessment Baywood Village, prepared by Illingworth & Rodkin, Inc., June 2018, updated November 22, 2019.

L. Traffic Impact Study, prepared by W-Trans, November 19, 2019.

M. Addendum to the Riverview Project Traffic Impact Study, prepared by W-Trans, June 18, 2020.

5.2. OTHER DOCUMENTS REFERENCED

1. 2007 Final Adopted State Alternative Fuels Plan, prepared by the California Energy Commission, https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF, Accessed July 9, 2019.
2. 2019 California Green Building Standards Code (CalGreen), Effective January 1, 2020.
3. BAAQMD 2017 Bay Area Clean Air Plan, prepared by the Bay Area Air Quality Management District, April 2017.
4. BASMAA Post Construction Manual Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties, January 2019.
5. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.
6. California Scenic Highway Mapping System, Scenic Highway System Lists, 2019. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed March 2019.
7. California Department of Conservation, Farmland Mapping and Monitoring Program, Sonoma County, 2016.

8. City of Petaluma 2015 Urban Water Management Plan, prepared June 2016.
9. City of Petaluma, General Plan 2025 and EIR.
10. City of Petaluma Municipal Code and Implementation Zoning Ordinance.
11. Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared by the Sonoma County Regional Climate Protection Authority, July 2016.
12. Clean Closure Plan Debris Area, prepared by CKG Environmental Inc., February 8, 2016.
13. Enhancement Plan for the Petaluma Marsh, final dated December 1992.
14. Habitat Mitigation Monitoring Plan, prepared by WRA, Inc., December 2019 and Revised May 2020.
15. Memorandum on Waste Management, Tree Inventory & Bay Mud Submittal, prepared by Steven J. Lafranchi & Associates, Inc, September 18, 2020Petaluma River Access and Enhancement Plan, May 1996.
16. Petaluma Fire Prevention Bureau, Very High Fire Hazard Severity Zones, June 2007.
17. Petaluma Valley Groundwater Sustainability Agency, Draft Petaluma Valley Groundwater Sustainability Plan, 2019.
18. Petaluma Historical Habitats, Petaluma River Historical Ecology, San Francisco Estuary Institute, 2018.
19. Petaluma Housing Element 2015 – 2023, Attachment 1.
20. Permit Sonoma's Williamson Act Properties 2017.
21. Petaluma River Access and Enhancement Plan, adopted by the City of Petaluma 1996.
22. Preliminary Storm Drain Calculations, prepared by Steven J. Lafranchi & Associates, September 7, 2018.
23. Preliminary Water Distribution Calculations, Steven J. Lafranchi & Associates, Inc., August 28, 2018
24. Preliminary Sanitary Sewer Calculations, prepared by Steven J. Lafranchi & Associates, Inc., September 6, 2018.
25. Preliminary Stormwater Control Plan, prepared by Steven J. Lafranchi & Associates, Inc., May 1, 2019.
26. Riverview Apartments Site Lighting Plan, Gouvis Engineering, January 9, 2020.

6. MITIGATION MONITORING AND REPORTING PROGRAM

City of Petaluma, California

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

Project Name: **Riverview Apartments**

File Number: **File No. PLSR-18-0016**

Address/Location: 2592 Casa Grande Rd Ave, Petaluma, CA
(APN: 005-060-041, -042, and -067)

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.

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
AESTHETICS				
AES-1: The retaining wall along the southern boundary of the project site shall be designed to be compatible with the surrounding marsh landscape, and shall incorporate elements into the design of the retaining wall to soften the scale and visual prominence such as: tiering with supporting landscaping in each tier; landscaping to be planted immediately adjacent to the wall, such as vines and trailing plants; using finishes on the wall that naturalize the façade through sculpting and staining to resemble natural materials; and using a color for the retaining wall to mimic the surrounding landscape of Alman Marsh.	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Contractor • Planning Division • Building Division	• Prior to issuance of a building permit	
AIR QUALITY				
AQ-1: The applicant shall incorporate the Best Management Practices (BMPs) for construction into the construction and improvement plans and clearly indicate these provisions in the specifications. In addition, an erosion control program shall be prepared and submitted to the City of Petaluma prior to any construction activity. BMPs shall include but not be limited to the BAAQMD Basic Construction Mitigation Measures as modified below: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three 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 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California	• 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	• Prior to issuance of a grading permit • Ongoing throughout project construction	

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
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 condition prior to operation. 8. Construction equipment staging shall occur as far as possible from existing sensitive receptors. 9. The Developer shall designate a person with authority to require increased watering to monitor the dust and erosion control program and provide name and phone number to the City prior to issuance of grading permits. Post a publicly visible sign with the telephone number of designated person 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: To reduce potential impacts to air quality during construction, the project shall develop and implement a plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 60 percent reduction, or more, in particulate matter exhaust emissions. Examples of how to achieve this reduction may include but is not limited to a combination of the following: 1. Diesel-powered off-road equipment larger than 25 horsepower operating on-site for more than two days continuously shall at a minimum meet U.S. EPA particulate matter emissions standards for Tier 2 engines that include CARB-certified Level 3 Diesel Particulate Filters or equivalent. (U.S. EPA Tier 3 standards with DPF 3 filters for particulate matter or engines meeting Tier 4 particulate matter standards would meet this requirement). 2. Use of construction equipment that is alternatively-fueled (non-diesel). 3. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited.	• 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	• Prior to issuance of a grading permit • Ongoing throughout project construction	

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 4. Minimize the idling time of diesel-powered construction equipment to two minutes. 5. All construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM. 6. Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.				
BIOLOGICAL RESOURCES				
BIO-1: To offset impacts to the linear channel (approximately 85 linear feet) and riparian habitat (approximately 465 linear feet and 0.75 acres of tree canopy coverage) the following shall be implemented: 1. The supplemental replacement plan (for removal of eucalyptus trees) shall demonstrate not less than 1:1 replacement of native tree species for each mature eucalyptus and pine tree to be removed and shall include a monitoring program with specified performance criteria achieving 85% establishment after 5 year or as otherwise approved by the CDFW as part of a Lake and Streambed Alteration Agreement prior to the removal of eucalyptus trees. 2. The final habitat mitigation and monitoring plan (HMMP) shall describe temporary and permanent impacts to the linear channel and the riparian habitat and shall demonstrate a ratio of not less than 1:1 replacement for loss of the linear channel (0.01 acre) and disturbance to the riparian habitat. Replacement of the linear channel swale shall consist of creating 85 linear feet of swale between created wetlands at the offsite Adobe Creek Mitigation Area, and due to this offsite mitigation, 26 native trees will be planted onsite along the western channel as additional replacement of riparian habitat. The HMMP shall include a monitoring program to be reviewed and accepted by the CDFW as part of a Lake and Streambed Alteration Agreement prior to issuance of a grading permit. 3. Prior to issuance of a grading permit, the applicant shall obtain permits from	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein.	• Qualified biologist • Applicant • Planning Division • CDFW • RWQCB	• Prior to grading permit • Ongoing throughout project construction	

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
regulatory agencies including the CDFW (1602) and RWQCB (401) for temporary and permanent impacts to the linear channel and riparian habitat and make permits available to the City.				
BIO-2: To avoid impacts to special-status avian species and birds protected under the Migratory Bird Treaty Act, the following shall be implemented: 1. Site preparation activities, including remediation and removal of trees, should occur outside of the bird-nesting season between September 1st and January 31st. If vegetation removal or construction begins between February 1 and August 31, preconstruction surveys using recognized CDFW and USFWS protocols including call count surveys shall be conducted by a qualified biologist within 14 days prior to vegetation removal or ground disturbance activities to determine absence or the presence and location of nesting bird species. If active nests are present, temporary protective construction exclusion zones shall be established by a qualified biologist in order to avoid direct or indirect mortality or disruption of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist. Exclusion zones shall remain in place until all young have fledged or until the nest has been naturally abandoned or predated. Work may proceed if no active nests are found during surveys or once nests are determined by a qualified biologist to be no longer active. 2. Cleared vegetation shall be collected and transported offsite to prevent birds from nesting in vegetative debris. 3. If there is a lapse in construction activity or if construction activity is phased at the work site, preconstruction and nesting bird surveys shall be repeated. 4. Prior to issuance of occupancy, signage shall be installed onsite informing users accessing offsite trails of sensitive habitat and that dogs shall be kept on leash at all times.	• 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	• Prior to grading permit • Provide the pre-construction survey to the city • Ongoing throughout project construction	

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
BIO-3: To avoid impacts during heavy construction activities and ongoing maintenance of the project to fully protect salt marsh species due to habitat degradation and loss, disturbance and displacement, injury and mortality the following shall be implemented: 1. **Fully Protected Species**. At project sites adjacent to salt marsh, a qualified biologist or biological monitor shall be present on site to survey and monitor for CDFW Fully Protected species, including salt marsh harvest mouse (SMHM), Ridgway's (California Clapper) rail (CCR), and California black rail (CBR), during a) all salt marsh vegetation removal; b) the construction of exclusion fencing; c) all work within 300 feet of tidal or pickleweed habitats. The qualified biologist or biological monitor shall have the authority to stop work if deemed necessary for any reason to protect these species, or any other special status species. Take or possession of these CDFW Fully Protected species is prohibited (Fish and Game Code Sections 3511and 4700) and no permits may be issued for such. 2. **High Tide Restrictions**. No project activities shall occur within 50 feet of suitable SMHM, CCR, or CBR habitat during extreme high tide events or when adjacent tidal marsh is flooded. Extreme high tides events are defined as a tide forecast of 6.5 feet or higher measured at the Golden Gate Bridge and adjusted to the timing of local high tides. 3. **Ridgway's (California Clapper)/Black Rail – Avoidance and Surveys:** Any project construction activities and ongoing maintenance within or adjacent to tidal marsh or suitable Ridgway's (California clapper) rail (CCR) or California black rail (CBR) habitat shall be avoided during rail breeding season (January 15 – August 31 for CCR, February 1 – August 31 for CBR) each year unless appropriately timed, yearly protocol level surveys are conducted and survey methodology and results are submitted to and accepted by CDFW. Surveys shall focus on suitable habitat that may be disturbed by project construction/maintenance activities during the breeding season to ensure that these species are not nesting in these locations. Surveys for rails shall be	• 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	• Prior to grading permit • Provide the pre-construction survey to the city • Ongoing through site preparation and grading and periodically at the request of the biologist	

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
conducted following the rail survey protocol (and any subsequent revisions). As determined through consultation with the CDFW construction activities may be phased from the north to the south during the breeding season to acclimate rails to visual and acoustic disturbance from construction activities. If breeding rails are determined to be present, no activities, visual disturbance (direct line of sight) and/or an increase in the ambient noise level shall occur within 700 feet of areas where CCR and/or CBR have been detected during the breeding season. The buffer from all rail nests shall be monitored and maintained by a qualified biologist until determined to no longer be active. If surveys have not been conducted, all work shall be conducted 700 feet from CCR and/or CBR habitat during nesting season. 4. **Salt Marsh Harvest Mouse –** Vegetation. Prior to impacting salt marsh habitat, an approved qualified biologist or biological monitor, familiar with salt marsh harvest mouse (SMHM), shall walk through and inspect suitable habitat prior to vegetation removal and search for signs of harvest mice or other sensitive wildlife and plants. Following inspection, personnel, under the supervision of the qualified biologist, will disturb (e.g., flush) vegetation to force movement of SMHM into adjacent marsh areas. Flushing of vegetation will first occur in the center of the site then progress toward the two sides away from the open water areas or in this case, away from impacted habitat. Immediately following vegetation flushing, personnel, under the supervision of the qualified biologist or biological monitor, will remove vegetation with hand tools (e.g. weed-eater, hoe, rake, trowel, shovel, grazing) so that vegetation is no taller than 2 inches. An approximately 2-foot wide de-vegetated buffer shall be created next to the project site. Exclusion Fencing. After vegetation removal, a mouse proof barrier shall be placed two feet from the edge of vegetation to further reduce the likelihood of SMHM returning to the area prior to construction. The fence shall be made of a heavy plastic sheeting material that does not allow salt marsh harvest mice to pass through or climb, and the bottom shall be buried to a depth of 4 inches so that salt marsh harvest mouse cannot crawl under the fence. Fence				

RIVERVIEW MITIGATION MONITORING AND REPORTING PROGRAM

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height shall be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. All supports for the exclusion fencing shall be placed on the inside of the work area. Inspections. The SMHM exclusion fencing shall remain in operating condition throughout the duration of all placement of fill events. The qualified biologist or biological monitor shall daily inspect the integrity of the exclusion fencing to ensure there are no gaps, tears or damage. Maintenance of the fencing shall be conducted as needed. Any necessary repairs to the fencing shall be completed within 24 hours of the initial observance of the damage. Any mice found along or outside the fence shall be closely monitored until they move away from the project area.				
BIO-4: To avoid impacts during construction activities due to habitat degradation and loss, disturbance and displacement, injury and mortality to special status species that may be present onsite or in the immediate vicinity including the western pond turtle (WPT) and California red-legged frog (CRLF), the following shall be implemented: 1. A qualified CDFW/USFWS-approved biologist shall conduct pre-construction surveys of all ground disturbance areas within suitable habitats in and adjacent to the project site to determine if special status species are present prior to the start of construction activities including remediation. Pre-construction surveys shall be conducted within 14 days prior to the initiation of grading activities in habitats where special status species have the potential to occur. If any special status species are found, the biologist shall contact the CDFW (and USFWS) to determine whether relocation and/or exclusion buffers are appropriate. If the CDFW approve of moving the animal, the biologist shall be allowed sufficient time to move the animal(s) from the work site before work activities begin. 2. Removal of vegetation cover shall occur using goat grazing. Vegetation	• 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.	• Applicant • Planning Division • Qualified biologist • CDFW • USFWS • RWQCB	• Prior to grading permit • Ongoing throughout project construction	

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removal in areas where goats have not grazed shall be conducted by motorized string trimmers with first pass high cut (at approximately mid-canopy) following by second pass low cut to ground level or no higher than 1 inch, and starting from areas away from wetlands/marsh habitat (northern and central portions of the site) and moving towards the wetland(s)/marsh habitat to be retained. Cut vegetation shall be removed from the exclusion area so that no cut vegetation remains once the exclusionary fence is installed. All non-native, invasive vegetation removed shall be discarded offsite and away from wetland areas to prevent reseeding. 3. Prior to the start of remediation/construction activities, exclusion fencing shall be installed along the work area boundary as determined by a qualified biologist. Exclusion fencing will act as a barrier to keep special status species from entering the work area. An exclusion fence plan shall be prepared by a qualified biologist and approved by regulatory agencies and may include the following as appropriate: 1) The areas approved for grading and clearing shall be delineated with suitable fencing materials and dimensions (such as temporary high-visibility orange-colored fence or silt fence at least 4 feet in height, flagging, or other barriers and buried to a depth of at least 4 inches) to act as a barrier to keep special status species from entering. Signs shall be posted that clearly state that construction personnel and equipment shall not move outside of the marked area. The fencing shall be inspected and approved by a qualified biologist and maintained daily until project completion. The fencing shall be removed only when all construction equipment is removed from the site. No construction activities shall take place outside the delineated project site. 2) To avoid attracting predators, food-related trash shall be kept in closed containers and removed daily from the exclusion zone. 3) At the end of each day, all construction-related holes or trenches deeper than 1 foot shall be covered to prevent entrapment of special status species.				

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4. Prior to construction, a qualified biologist shall conduct training sessions to familiarize all construction personnel with identification of special status species and their habitat, general provisions and protections afforded by the Endangered Species Act, measures implemented to protect the species, and a review of project site boundaries. All personnel shall sign an affidavit acknowledging participation in the training and understanding species legal status, penalties for violations and all protective measures. Wallet sized card or fact sheet handouts shall be made available and carried to crews onsite. 5. Grading activities shall cease one half hour before sunset and shall not begin prior to one half hour before sunrise. 6. Grading activities shall be prohibited during rain events, within 24 hours of events projected to deliver more than 0.2 inches of rain, and within 24 hours after rain events exceeding 0.2 inches in measurable precipitation. 7. No grading shall occur after 0.5 inches of rain has occurred after November 1 in the year construction grading work is occurring unless one-week extension based on fair weather are approved by regulatory agencies (CDFW and RWQCB). 8. At project operation tenants shall be advised that dogs are to be kept on leash at all times within development boundaries when within 50 feet of the southern, eastern, and western portions of the site where wetland habitat will be preserved, and riparian habitat improved. 9. Trash receptacles shall be secured within enclosures that exclude mesopredators such as racoons and coyotes to avoid attracting and subsidizing these predators. Trash enclosure and receptacles onsite shall be routinely maintained. 10. Avoidance and minimization measures shall be employed prior to and during construction, as required and/or approved by the resource agencies (USFWS				

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and CDFW), to protect special status species and sensitive habitats.				
BIO-5: To ensure that onsite wetland to be preserved and offsite wetlands in the immediate site vicinity are retained, the following wetland preservation measures shall be implemented: 1. Grading activities shall be conducted during the dry season between May and October (with early start and late finish extension depending on weather conditions and approval by agencies). 2. Best Management Practices (BMP) and sediment runoff prevention shall be implemented at all times including straw wattles, hay bales, etc.), and periodic monitoring and testing of runoff water during construction. 3. Prevent restriction of natural flow of water into and out of existing wetlands by ensuring that appropriate inlets and outlets are available including post grading and development. 4. The habitat mitigation and monitoring plan (HMMP) shall include temporary and permanent impacts to wetlands to be preserved and a monitoring program to be approved by the CDFW and the RWQCB.	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Qualified biologist • Planning Division • CDFW • RWQCB • USACE	• Prior to grading permit • Ongoing throughout project construction	
BIO-6: The loss of wetlands onsite (approximately 1.52 acres) shall be replaced through implementing the Habitat Mitigation and Monitoring Program (HMMP), which specifies constructing created offsite wetlands at a 2:1 ratio. Offsite wetlands shall create not less than 3.04 acres of wetlands in order to meet the 2:1 replacement ratio. Prior to filling wetlands onsite, permits to fill waters of the U.S. and waters of the State shall be obtained from regulatory agencies including the Army Corps of Engineers (Section 404 Clean Water Act), the California Regional Water Quality Control Board (Section 401 Clean Water Act), and the California Department of Fish and Wildlife (1602 Fish and Game Code). Additional provisions may be imposed through the regulatory permit process by agencies and the project shall comply with all regulatory permit requirements. Alternatively, acceptable compensatory mitigation may be fulfilled by mitigation bank credits purchased from an agency approved bank or proponent sponsored created wetland onsite or offsite or a combination of both. While the HMMP sets forth a 2:1 mitigation ratio, created wetland procedures and monitoring, the Final HMMP must be accepted by the	• Provide proof of mitigation credit purchase prior to issuance of grading permits OR • Prepare and submit a WMMP in accordance with this measure.	• Applicant • Planning Division • Qualified biologist • USACE • RWQCB		

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regulatory agencies and may be modified or additional requirements imposed. The Final HMMP will identify acceptable performance criteria for success and verified and approved by results of a monitoring program of 5 years. Proof of regulatory agency permits shall be provided to the City of Petaluma, demonstrating compliance with the Corps, RWQCB, and CDFW, in advance of issuance of a grading permit.				
BIO-7: Prior to any tree removal or alteration, the applicant shall obtain approval from the City of Petaluma to implement a plan for tree preservation and replacement in accordance with the City's Tree Preservation Ordinance. Replacement of the one protected tree onsite (Coast Live Oak), shall be replaced at a one-to-one trunk diameter basis. Replacement trees shall be at the minimum 24-inch box size. Acceptable replacement for the removal of one 13" dbh coast live oak would be five 24" boxed live oaks and one 36" box live oak. Replacement trees shall be planted onsite in the same generally vicinity as the removed tree.	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Qualified arborist • Planning Division • Building Division	• Prior to issuance of grading permit	
CULTURAL RESOURCES				
CUL-1: The applicant shall retain the services of a professional archaeologist who meets the Secretary of the Interior's Standards Professional Qualifications for Archaeology and accepted by the Federated Indians of Graton to monitor ground disturbing activities for the inadvertent discovery of archaeological resources (prehistoric and historic-era). If a potentially significant archaeological resource is encountered the archaeologist shall be provided sufficient time to evaluate the resource and make treatment recommendations in accordance with CEQA Guidelines §15064.5.	• Submit a tribal monitoring schedule and process • Conduct construction in conformance with measures herein. • Notify FIGR/ Planning Division in the event of potentially significant archaeological resource discovery.	• Applicant • Qualified archaeologist • FIGR • Planning Division	• Prior to issuance of a demolition and/or grading permit • During Ground disturbing activities	

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CUL-2: If during the course of ground disturbing activities (onsite and offsite), including, but not limited to excavation, grading and construction, a potentially significant archaeological 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 cultural resource specialist to adequately evaluate and determine significance of the discovered resource and provide treatment recommendations. Pre-historic archaeological site indicators include obsidian and chert flakes, chipped stone tools, grinding and mashing implements, bedrock outcrops and boulders with mortar cups, locally darkened midden soils, 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). Should a significant archaeological resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Work shall not proceed in the vicinity of a find until all components of the resource mitigation plan have been complied with to the satisfaction of the City and the Federated Indians of Graton Rancheria.	• Conduct construction in conformance with measures herein. • Notify FIGR and Planning Division in the event of potentially significant archaeological resource discovery. • Include measure on project construction and improvement plans.	• Applicant • Qualified archaeologist • FIGR • Planning Division	• Prior to issuance of a demolition and/or grading permit • During Ground disturbing activities	
GEOLOGY AND SOILS				
GEO-1: As determined by the City Engineer and/or Chief Building Official, all recommendations outlined in the Soil Investigation Report dated May 16, 2008, prepared for the subject property by Giblin Associates, and all recommendations outlined in the Soil Engineering Consultation Report dated July 2, 2018, prepared by Reese & Associates, including but not limited to, site preparation and grading, fill and bay mud treatment, excavation, seismic design, and foundation design, are herein incorporated by reference and shall be adhered to in order to ensure that appropriate construction measures are incorporated into the design of the project. Prior to issuance of grading permit, the applicant shall provide to the City's acceptance a final grading plan, demonstrating compliance with recommendations outline in the Soil construction plans, and building plans shall demonstrate that	• 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	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division	• Prior to issuance of a grading activity	

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recommendations set forth in the geotechnical reports have been incorporated into the design of the project. Nothing in this mitigation measure shall preclude the City Engineer and/or Chief Building Official from requiring additional information to determine compliance with applicable standards. The geotechnical engineer shall inspect the construction work and shall certify to the City, prior to issuance of a certificate of occupancy that the improvements have been constructed in accordance with the geotechnical specifications.	have been constructed in accordance with the geotechnical specifications.			
GEO-2: Prior to issuance of a grading permit, an erosion control plan along with grading and drainage plans shall be submitted to the City Engineer for review. 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. Plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during all construction activity.	• Compliance with approved erosion control plan.	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division	• Prior to issuance of a grading activity • Ongoing throughout project construction	
HAZARDS/HAZARDOUS MATERIALS				
HAZ-1: Remediation activities onsite shall be conducted in accordance with the Clean Closure Plan including the treatment of approximately 6,000 cubic yards of impacted materials onsite. All impacted soils, vegetation, and trees shall be removed and remediated, in compliance with oversight by the RWQCB and disposed of at a facility licensed to accept contaminated materials. Prior to issuance of an occupancy permit, the City shall be provided with a Final Clean Closure Plan that has been accepted by the RWQCB demonstrating that remediation has effectively reduced pollutant concentrations onsite and all contaminants fall below ESLs for residential uses. Remediation activities shall be conducted in accordance with the Site-Specific Health and Safety Plan (included as Appendix A to the Clean Closure Plan).	• Prepare and submit Plan for review and acceptance by cityRWQCB • Include measure on project construction and improvement plans.	• Applicant/ Contractor/ Geotechnical Engineer • Fire Department • City Planning Division • RWQCB	• Prior to issuance of remediation, grading, and building permit	
HYDROLOGY AND WATER QUALITY				

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HYDRO-1: In accordance with the National Pollution Discharge Elimination System (NPDES) regulation, the applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP shall address erosion and sediment controls, proper storage of fuels, identification of BMPs, and use and cleanup of hazardous materials. A Notice of Intent, fees, and other required documentation shall be filed with the Regional Water Quality Control Board. During construction a monitoring report shall be conducted weekly during dry conditions and three times a day during storms that produce more than 1/2" of precipitation.	• Prepare and submit SWPPP for review and acceptance by the city and RWQCB • Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant/ Contractor • Public Works and Utilities • Building Division • Planning Division • RWQCB	• Prior to construction activities • Ongoing throughout project	
HYDRO-2: Should construction dewatering be required, the applicant shall either reuse the water on-site for dust control, compaction, or irrigation, retain the water on-site in a grassy or porous area to allow infiltration/evaporation, or obtain a permit to discharge construction water to a sanitary sewer or storm drain. Discharges to the sanitary sewer system shall require a one-time discharge permit from the City of Petaluma. Measures may include characterizing the discharge and ensuring filtering methods and monitoring to verify that the discharge is compliant with the City's local wastewater discharge requirements. Discharges to a storm drain shall be conducted in a manner that complies with the Regional Water Quality Control Board Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region. In the event that groundwater is discharged to the storm drain system, the Applicant shall submit permit registration documents and develop a Best Management Practices/Pollution Prevention Plan to characterize the discharge and to identify specific BMPs, such as sediment and flow controls sufficient to prevent erosion and flooding downstream.	• Measures shall be included in project design and construction documents. • Prepare Construction Monitoring Report that document periodic site inspections during construction to ensure that measures are in place.	• Applicant • Contractor • Public Works and Utilities • Environmental Services Division • RWCQB	• Ongoing throughout construction	

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HYDRO-3: The project shall implement appropriate post-construction stormwater treatment measures to reduce water quality and hydromodification impacts to downstream reaches, as required by the current post construction controls regulations of the Small MS4 General Permit. Upon completion of the final project design, the Applicant shall provide a final stormwater control plan (SWCP) to the City of stormwater management measures that show compliance with the Small MS4 General Permit. The report shall delineate individual drainage management areas (DMAs) within the project site and provide analysis to show compliance with the volumetric or flow-based treatment criteria as described in the Small MS4 General Permit and outlined in the BASMAA (2019) Post-Construction Manual. The report shall also include design calculations that show post-project runoff for the 24-hour, 2, 5, 10, 25, and 100 year storm event does not exceed pre-project flow for each DMA, and that each DMA has appropriate stormwater quality treatment based on flow- or volumetric-based calculation, as outlined in the Small MS4 General Permit and in compliance with the BASMAA Manual. The final SWCP documentation shall be submitted to the City and Sonoma Water for review and an approval letter from Sonoma Water prior to the issuance of a grading permit.	• Conformance with measures herein. • Prior to issuance of Certificate of Occupancy.	• Project Engineer • Planning Division • Building Division • Floodplain Administrator • Sonoma Water	• Prior to issuance of a Certificate of Occupancy • Ongoing throughout project operation	
HYDRO-4: 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 City's FP-C, such as the following: 1. All new improvements shall be anchored to prevent 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.	• Conduct construction in conformance with measures herein. • Prior to issuance of Certificate of Occupancy, provide proof of certification by a registered engineer or surveyor.	• Project Engineer • Planning Division • Building Division • Floodplain Administrator	• Prior to issuance of a Certificate of Occupancy • Ongoing throughout project operation	

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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.				
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 7:00 a.m. and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 7:00 p.m. on Saturday. Construction activities shall be prohibited on Sunday and State, Federal and Local Holidays. Construction activities occurring within 100 feet of the north property line shall be limited to the hours between 7:30 a.m. and 5:30 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturdays. 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.	• 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	• Applicant • Contractor • Planning Division • Building Division • Disturbance Coordinator • Qualified Acoustical Consultant	• Ongoing throughout project construction	

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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 by accessor parcel number (within 1,000 feet of the project site) of the construction schedule, 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.	ensure that measures are in place.			
Tribal Cultural Resources				
TCR-1: Implement CUL-1 and CUL-2				