RIVERBEND

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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

May 2020

RIVERBEND
CEQA ENVIRONMENTAL CHECKLIST AND INITIAL STUDY

Initial Study Checklist	
Project Title:	Riverbend
Lead Agency:	City of Petaluma 11 English Street Petaluma, CA 94952
Contact Person and phone number:	Aaron Hollister, Senior Planner ahollister@cityofpetaluma.org 707-778-4422
Project Location:	529 Madison St, City of Petaluma, Sonoma County, California Assessor's Parcel Number 007-041-006
Project Sponsor:	Steve Lafranchi 140 2nd Street, Suite 312 Petaluma, CA 94952 707-762-3122
Property Owners:	UGI Riverbend Crossing, LLC 1746 Union St. San Francisco, CA 94123
General Plan Designation:	Diverse Low Density Residential (6.1 to 12 units/acre), Floodway
Existing / Proposed Zoning:	R3 (Residential 3), FW (Floodway) / PUD, Floodway
Description of project:	The project proposes to develop thirty, two-story single-family homes, a private street, improvements to Lynch Creek Trail and the dedication of riverfront park land to the City of Petaluma on a 3.36-acre vacant parcel. The project requests rezoning from Residential (R3) to a Planned Unit District (PUD), a vesting tentative map for the subdivision of the property into 30 residential lots and a remainder parcel, and Site Plan and Architectural Review.
Surrounding land uses and setting; briefly describe the project's surroundings:	The project site is located in Central Petaluma, immediately east of the Petaluma River, adjacent to a portion of the existing Lynch Creek Trail, north of Lakeville Street, and south of Payran Street. It is approximately 1,500 feet northwest of the city's SMART train station. Adjacent urban uses include single-family residences to the north and east, and the Clover Stornetta facility to the south.
Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	Regional Water Quality Control Board Army Corps of Engineers Sonoma Water (formerly Sonoma County Water Agency)
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to PRC section 21080.3.1? If so, has consultation begun?	Notice was sent to Federated Indians of Graton Rancheria (FIGR) on December 5, 2019. The City of Petaluma received a response from FIGR on January 13, 2020, after the statutory timeframe provided by Public Resources Code §21080.3.1. Nonetheless, a consultation meeting was held between the City of Petaluma and FIGR on February 4, 2020. See Chapter 4.18 for additional detail.

RIVERBEND

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1. SUMMARY AND INTRODUCTION

1.1. PURPOSE AND INTENT

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

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

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

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

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

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

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

1.2. PROJECT SUMMARY

The proposed Riverbend project consists of a 30-lot subdivision of a vacant 3.36-acre site in central Petaluma, Sonoma County, California. The project includes a zoning map amendment to change the zoning designation from Residential (R3) to a Planned Unit District (PUD)[1], a 30-lot vesting tentative subdivision map with a remainder lot, and Site Plan and Architectural Review. The project would develop thirty (30), two-story single-family homes. Twenty-four of the units will be detached and six of the units will be attached. The project includes a new private street bisecting the site and providing through access between Edith Street to the north and Madison Street to the east. Parking onsite will be provided in the garages (46 spaces) and driveways (46 spaces) of the private residences and on the new private street (15 spaces). Each garage will contain at least one bicycle rack. Improvements proposed by the project include landscaping, bioretention basins, and lighting,

[1] The purpose of the PUD is to allow for unusual density or design characteristics, which would not normally be permitted to govern the residential development. In the case of the Riverbend Project a PUD is being pursued in order to cluster development away from the Petaluma River and provide for enhancement to the Lynch Creek Trail with an expanded adjoining public open space area, while maintaining the density that would otherwise be permitted.

as well as upgrades to the existing Lynch Creek Trail including the portion that intersect with the project site and extending south to Lakeville Street across the neighboring parcel. Other improvements proposed by the project include streetscape landscaping along the project site's frontage to Edith Street and Madison Street, crosswalk enhancement including bulb-outs and markings at the Edith Street and Madison Street intersection, and striping of Wilson Street at East Washington Street to provide a right turn arrow stencil and a combined through and left turn stencil.

1.3. PETALUMA GENERAL PLAN AND EIR

General Plan

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

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

General Plan EIR

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

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

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

2. PROJECT DESCRIPTION

2.1. ENVIRONMENTAL SETTING

Regional Setting

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

Petaluma's Urban Growth Boundary (UGB) defines the limits within which urban development may occur and encompasses approximately 9,911 acres. The UGB was implemented in 1987 (as the Urban Limit Line), formally adopted as the UGB in 1998 via Measure I and will expire in 2025. The project site is located within the UGB, in the central portion of the city of Petaluma. The project's location within the City of Petaluma and surrounding environs is shown in **Figure 1: Regional Location**.

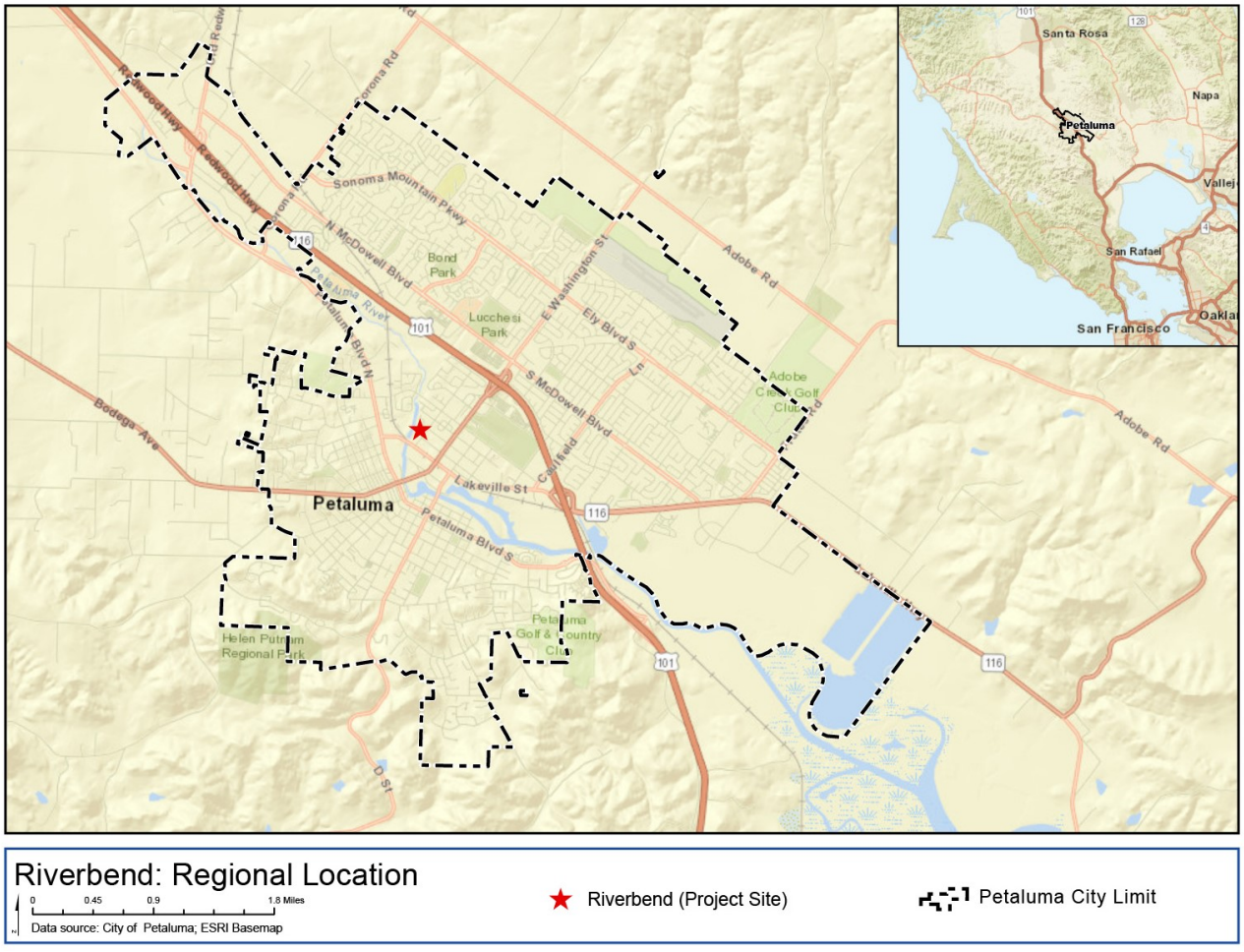

Figure 1: Regional Location

Vicinity Setting
The project site is located at 529 Madison Street in central Petaluma and within the Petaluma General Plan's Payran-McKinley Planning Subarea, which is generally contained within an area bordered by Highway 101, the railroad tracks, Lakeville Street, and East Washington Street. The Planning Subarea consists primarily of residential uses and a few large vacant parcels, primarily adjacent to the Petaluma River, Lynch and Washington Creeks, and Highway 101. It features a diverse range of housing densities, with single-family dwellings, townhomes, apartments, and senior housing options.

A few active agricultural processing and industrial uses are located along the river and the railroad tracks in the area, which remain important to the agricultural history of the community and the farming community still operating in the county. This subarea contains a network of open spaces along the Petaluma River and tributary creeks, which are intended to be improved with greenways and trails, while preserving riparian corridors and maintaining flood water conveyance.

The Lynch Creek Trail, a Class I facility is located east of the River and extends from Lakeville Street to the confluence of Lynch Creek with the Petaluma River, where it crosses over Lynch Creek and extends along the west side of Lynch Creek and provides an undercrossing at Highway 101.

Project Site
The project site is a 3.36-acre property (APN 007-041-006) located south of Edith Street, west of Madison Street, and east of the Petaluma River in Central Petaluma. Land uses adjacent to the subject property include multi-family and single-family residential to the north, single-family residential to the east, and the Clover Stornetta Farms dairy processing facility to the south. The Petaluma River and Lynch Creek Trail are located immediately to the west, while undeveloped land designated Medium Density Residential is located on the opposite side of the river (**Figure 2: Project Vicinity**).

Figure 2: Project Vicinity

The project site contains a highly-disturbed open field with ruderal herbaceous species, approximately 54 trees, a 0.04-acre jurisdictional seasonal wetland, a segment of the existing Lynch Creek Trail, encompasses open waters of the Petaluma River, and the riparian corridor along eastern bank of the River.

The project site contains a concrete pad, fill material, and grasses that have been regularly mowed. It has been used as a staging area for construction, storage area, a parking lot, and truck turn around. There are no native communities or habitats on site. There are a cluster of mature trees in the southeastern portion of the site, all of which will be removed by the proposed project. In total thirteen trees are proposed for removal, consisting of eight unprotected species (Red Maple, Monterey Pine, London Plane, and Black Walnut) and five protected oak trees (Coast Live Oaks). A shallow excavated swale occurs on the western portion of the project site that receives runoff from the site and the adjacent Clover Stornetta facility. The existing swale does not exhibit wetland characteristic and is not identified as a jurisdictional feature.

The western portion of the project site extends to the Petaluma River and includes a narrow riparian corridor. Riparian trees include Coast live oak (*Quercus agrifolia*) and Valley oak (*Quercus lobata*). None of the trees within the riparian corridor will be removed under the proposed project. The top of bank includes ruderal habitat and ornamental species. The segment of the Petaluma River adjacent to the project area is a tidal slough and has a width of approximately 50 feet at the ordinary high-water mark (OHWM). The width between the tops of bank of the Petaluma River at this location is approximately 100 feet.

The project site traverses two General Plan land use designations of Diverse Low Density Residential at 6.1 to 12.0 dwelling units per acre and Floodway (**Figure 3: General Plan Land Use**).

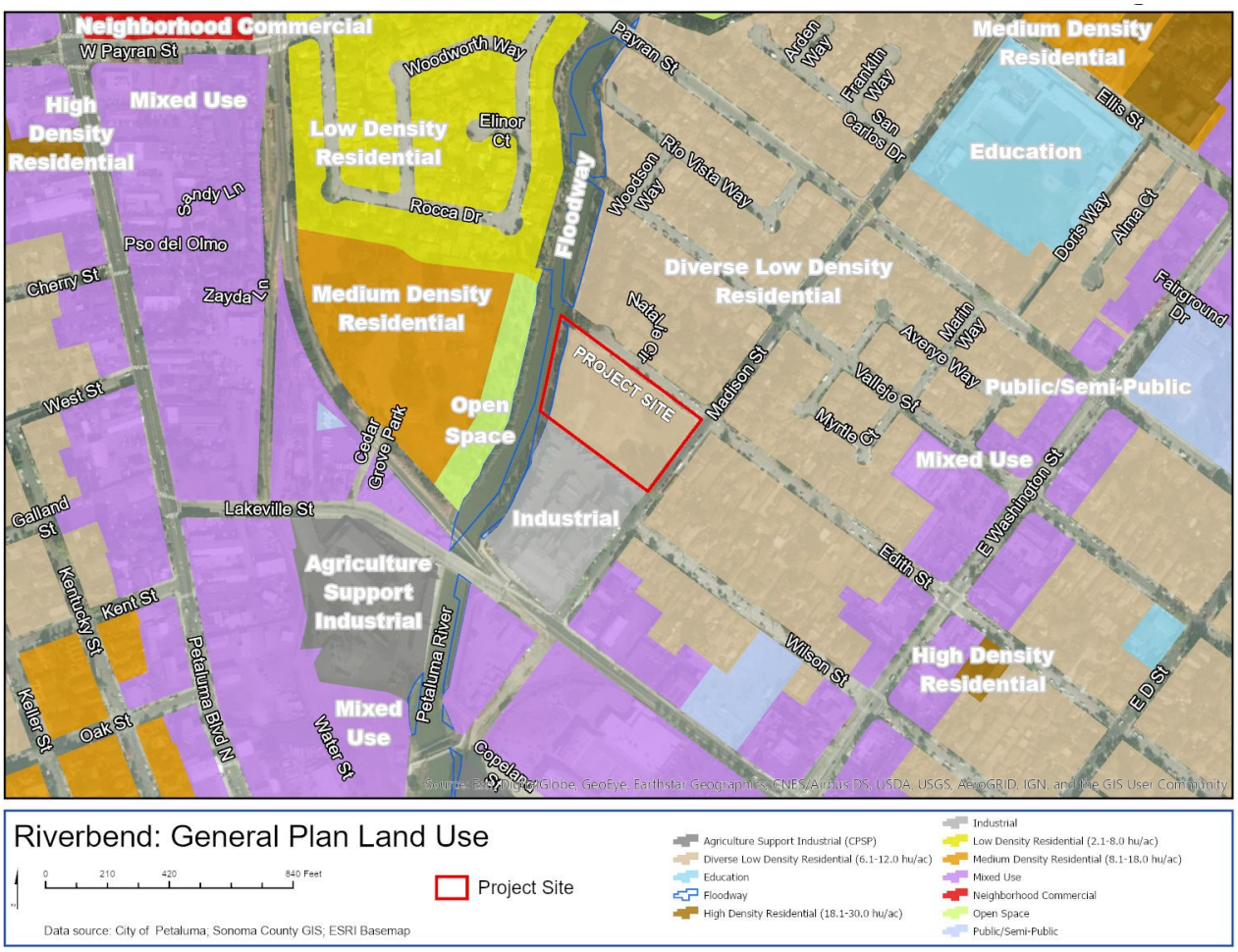

Figure 3: Land Use Designation

The project site is currently zoned R3 (Residential 3), and a portion of the western property overlaps with the Floodway. The project proposes to rezone the existing R3 areas of the project site to PUD as shown in **Figure 4: Existing-Proposed Zoning**.

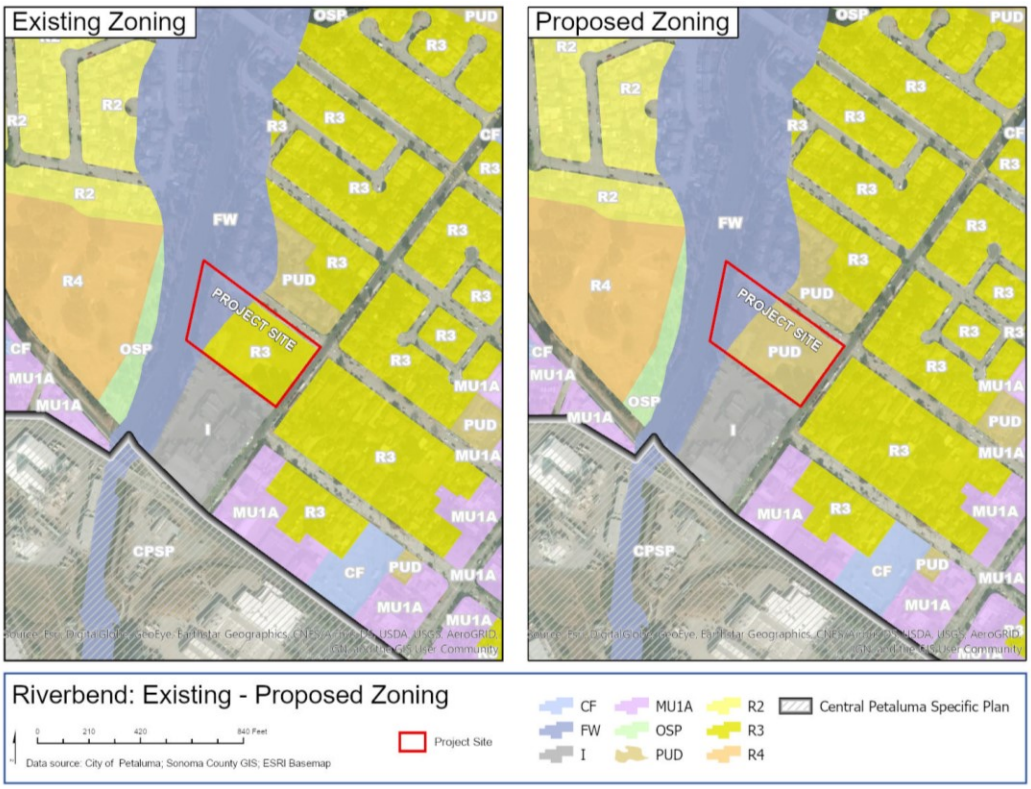

Figure 4: Current and Proposed Zoning

Figure 4 above incorrectly depicts the limits of the floodway zone, which largely mirrors the floodway limits depicted in Figure 3 above. FEMA's current Flood Maps shows the limits of the floodway and floodplain. The boundary of Petaluma's Floodway is determined by the Federal Emergency Management Agency's Special Flood Hazard areas as described in the Flood Insurance Rate Maps (FIRM). Pursuant to the City's Implementing Zoning Ordinance (IZO) Section 6.020, the city adopts revisions or updates to FIRMs on an ongoing basis. The western portion of the project parcel overlaps with the Petaluma River including the Floodway and 100-year floodplain (**Figure 5: FEMA Flood Map**). The proposed development is located fully outside the floodway and the regulated 100-year floodplain, as further described below.

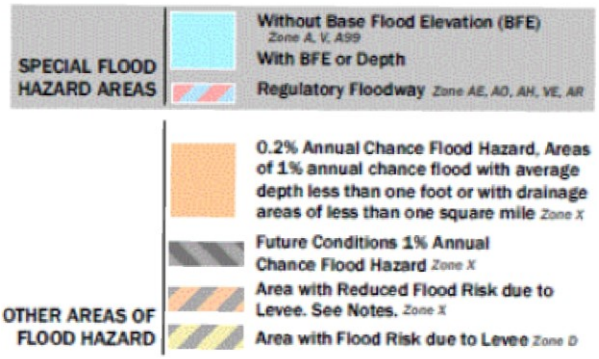

Figure 5: FEMA Flood Map

2.2. PROJECT DESCRIPTION

The project proposes the development of 30, two-story residential homes, a new private road bisecting the site, upgrades to the existing Class I Lynch Creek Trail, a passive public park along the Lynch Creek Trail, landscaping, parking, lighting and ancillary improvements. The project's site plan is shown in **Figure 6: Site Plan**.

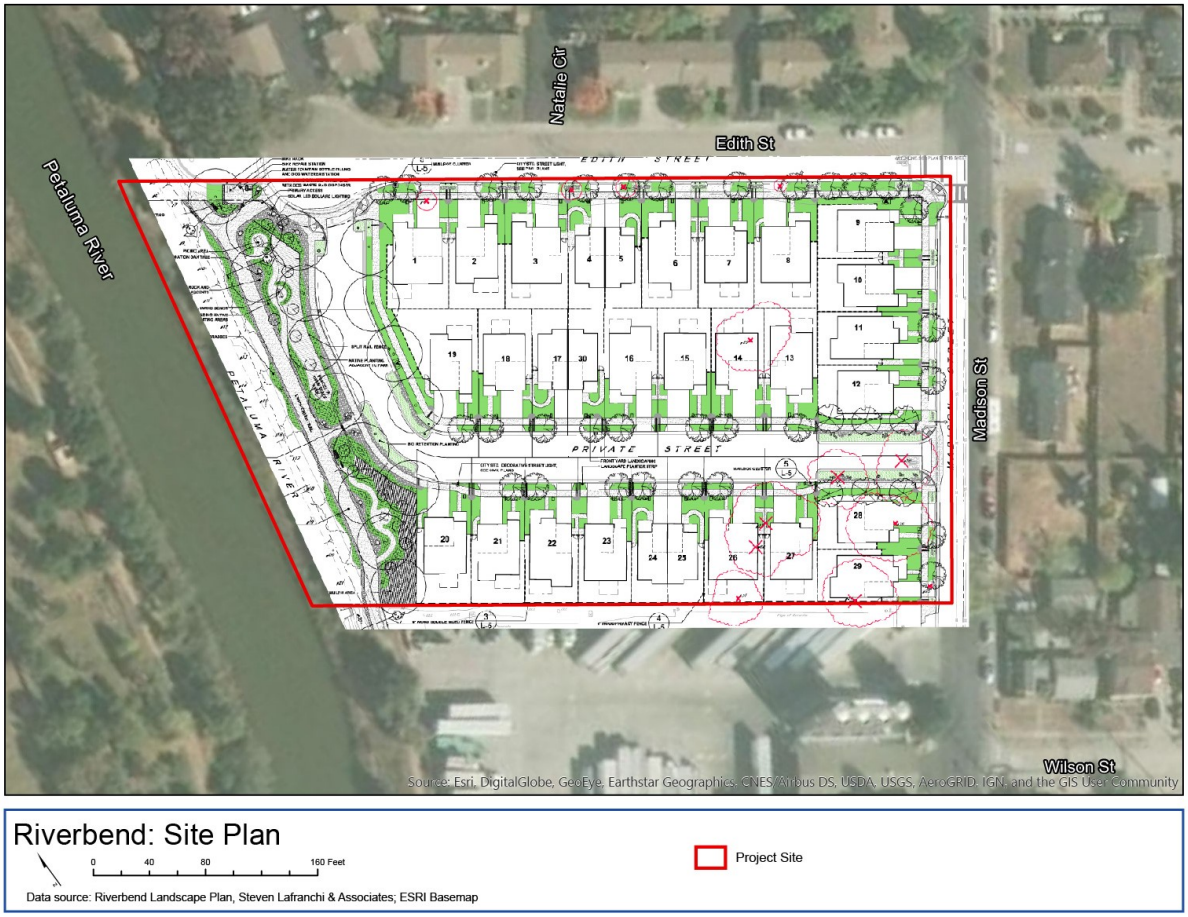

Figure 6: Site Plan

Single-Family Residential

The project includes the construction of 30, two-story single-family residential units. Of the 30 units, 24 of the units are proposed as single-family detached units and six of the units are proposed as attached single-family dwelling units paired in groups of two attached units. All residences would contain three bedrooms varying between 2 and 2.5 bathrooms, and range in size from 1,263 square feet up to 2,272 square feet. Eighteen of the detached dwelling units are proposed to contain four off-street vehicular parking spaces (two covered, two uncovered), while six of the detached units and all six of the attached units would contain two off-street vehicular parking spaces (one covered and one uncovered). A total of 92 off-street parking spaces would be introduced by the project and 15 new on street parking spaces would be provided along the new private street. At least one bicycle rack is included in each garage. All homes include landscaped front yards that would be planted and maintained by the development's homeowner's association and a private, fenced back yard area. A covered porch option has been included on 20 of the proposed units.

New residences located along the southern property line, adjacent to the existing Clover Stornetta facility will be improved with sound-rated windows and doors and will include forced air mechanical ventilation with Merv13 air filters.

The proposed design reflects four architectural styles (Cottage, Traditional, Craftsman, and Farmhouse). The Traditional design will have walls of cementitious lap siding with brick accents and shingle siding. The Craftsman design will have stucco walls and shingle siding stone accents on the front porch columns, outlookers and open rafter tails. The Cottage design will have stucco walls, brick accents and non-operable shutters on select window openings. The Farmhouse design will utilize stucco and cementitious panels and batt siding. The homes will be painted with seven different color schemes. All of the residences will all utilize a composite shingle product for the roofing material. The proposed buildings heights will be between 24.3 feet and 28.6 feet, as shown in **Figure 7: Site Elevations**.

EDITH STREET ELEVATION

PRIVATE STREET NORTHEAST ELEVATION

Figure 7: Site Elevations

Landscaping/Fencing/Lighting

The preliminary landscape plan includes trees, shrubs, grasses, perennials, and groundcover. To accommodate the proposed development, at total of thirteen trees are proposed for removal, including five protected oak trees, which require replacement under the city's tree protection ordinance. Trees and other landscaping plants will be installed along the site perimeter, along the new private street, and throughout the public park adjacent to the Lynch Creek Trail. All proposed planting species require very low to moderate water use. Proposed street trees include Marina strawberry tree and Chinese pistache. Trees to be planted in bioretention areas include Maidenhair and Red maple. The open space area adjacent to Lynch Creek is proposed to accommodate 13 new Coast live oaks.

An eight-foot-tall, double-sided wooden fence is proposed along the southern shared boundary with Clover Stornetta facility to provide noise attenuation. In between the proposed new homes, six-foot-tall good neighbor fencing with side yard gates will be installed. Split rail fencing is proposed between the new public open space area along the Lynch Creek Trail and the new Private Street.

Street lighting will be installed per City of Petaluma standards street light specifications. Two street lights will be installed along the project site frontage of Madison Street and two street lights will be installed along the site

frontage of Edith Street. Five 14-foot poles topped with heritage-style ornamental hoods will be installed on alternating sides of the new private street.

Public Open Space/Lynch Creek Trail Improvements

The existing Class I Lynch Creek Trail will be upgraded to provide amenities to new residents and the public. Near the access point from Edith Street to the Lynch Creek trail several public amenities will be installed including a bike repair station, bike racks for three bikes, drinking fountains for both pets and people, a dog waste bag dispenser and trash and recycling bins. Improvements to the Lynch Creek Trail will extend along the length of the project site and will continue south, across the adjacent property, and extending to where Lynch Creek Trail intersects with Lakeville Highway. Where feasible, the trail width will be expanded to 10 feet with two-foot-wide GraniteCrete shoulders on each side. Where this configuration is not possible due to physical constraints (existing trees, top of bank of the Petaluma River), the trail configuration could include a 10-foot-wide concrete path with a shoulder on one side or no shoulder. The Lynch Creek Trail will be improved using GraniteCrete overlaid upon three inches of crushed rock to promote rainfall retention into the soil. New solar powered lighting bollards, benches and landscaping are proposed along the length of the trail fronting the project site.

A public open space area is proposed immediately east of the Lynch Creek Trail and west of the new private street. A three-foot tall wood split rail fence will be located between the new private street and the public open space area. The open space area will provide a walking path, bench seating, a picnic area, and a metal swing bench. Access between the Lynch Creek Trail and the New Private Street will be provided approximately 160 feet south of the Edith Street access and will feature a wooden entry trellis. Landscaping along the Lynch Creek Trail and within the open space area will include native plant species, as well as accent boulders and river rocks.

The western portion of the project site (Parcel A) inclusive of the Petaluma River, narrow riparian corridor, the Lynch Creek Trail, and the proposed public open space area will be dedicated to the City of Petaluma.

Utilities

The project would utilize public water and municipal sewer from existing mains in Edith Street and Madison Street and from new pipelines installed within the new private street. Public water hook ups will connect to individual homes from existing lines in Edith Street and Madison Street with a new line running beneath the new private street that will connect adjacent homes. A new public drinking fountain located at the entrance of Lynch Creek Trail at Edith Street will be connected to the new water line in the private street. A new sanitary sewer line will serve the new homes along the new private street. All other new residences would connect via new sewer laterals to existing pipelines in Edith and Madison streets. The project's wastewater would be conveyed from the project site to the Ellis Creek Water Recycling facility.

The project's stormwater management system is designed to direct stormwater runoff for the 85th percentile storm from the site's impervious surfaces into bioretention basins located throughout the project. Stormwater runoff in excess of the 85th percentile storm will be directed via gutters to existing storm drain systems in Edith Street and Madison Street. A new stormwater pipe will be installed near Madison Street and run along the new private street to collect stormwater runoff and discharge into an existing stormwater pipe at Edith Street. Bioretention areas are designed to collect rainwater runoff from new hardscape surfaces (roofs, pavements, sidewalks) and accommodate retention.

An existing storm water drain exists in the southwest portion of the site that currently drains runoff. This existing storm drain will continue to function in a similar capacity. Runoff from new impervious surfaces introduced by the project will be routed to the proposed onsite storm drain system.

Site Access, Parking and Circulation

The project will install a new private street with access points from the north at Edith Street and to the east at Madison Street. Parking will consist of 15 on-street parking spaces on the new private street and 92 off-street spaces contained within garages and driveways. Eight new driveways will be installed along Edith Street and

six new driveways will be installed along Madison Street. Ten on-street public parking spaces will be interspersed between new residential driveways on Edith Street and Madison Street. New residents will access homes from Edith and Madison streets and from the new private street proposed to be installed by the project. A total of 30 interior, secured bicycle parking spaces are required to be located on site with one bike hook per each residence.

Pedestrian facilities include a new sidewalk on Madison Street and a reconstructed sidewalk on Edith Street. A new sidewalk will be installed on both sides of the new private street connecting to sidewalks on Edith Street and Madison Street, and providing connectivity to the Lynch Creek Trail. The new public concrete sidewalks will have a width of 5 feet along Madison and Edith streets and internally on the new private street. Sidewalks will contain landscaped areas to accommodate street trees. Pedestrian connections to the Lynch Creek Trail will be provided at two access points, one at the terminus of Edith Street and the other approximately 160 feet to the south. The project will upgrade and enhance the existing Lynch Creek Trail (a Class I facility) along the site frontage and extending south to the trail's intersection with Lakeville Highway. The main access point to Lynch Creek Trail from Edith Street will have three public bicycle parking racks.

At the East Washington Street and Wilson Street intersection, the project proposes to stripe Wilson Street at its approach to East Washington Street to provide a dedicated left-turn/through lane and a right turn lane. New pavement marking is proposed at the Edith Street Madison Street intersection including a striped crosswalk across Madison Street and striping across Edith Street, as well as corner bulb-outs.

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 removal of existing trees and vegetation and filling the 0.04-acre wetland.

A majority of the trees occurring onsite are located within the narrow riparian corridor adjacent to the Petaluma River. No construction activities are proposed within the riparian corridor and no riparian trees will be removed under the proposed project. Of the 54 trees dispersed across the parcel, 34 are protected under Petaluma's tree preservation ordinance. Of the protected trees, 28 will be preserved and five will be removed to accommodate to proposed development. An additional 8 non-protected trees will be removed to accommodate development. As such, a total of 13 trees will be removed and 41 trees will be retained.

Grading of the site will result in distributing soils across the site to achieve level foundations for building pads, trenching to accommodate utilities, and the new private street and sidewalks. Grading activities will require 2,600 cubic yards of fill to create a more level topography across the site.

Following completion of grading activities, utility infrastructure improvements and building foundations will be constructed. Improvements will include the installation of new laterals and tie-ins to connect to the existing water, sewer, power, and public services along Edith Street and Madison Street. A new utility trench will be installed beneath the new private street and will extend public utilities to new residences. Improvements along Edith Street and Madison Street will include new driveways, sidewalks, landscaping, lighting, and signage.

Construction equipment expected to be utilized includes concrete saws, dozers, tractors, backhoes, haul trucks, scrapers, graders, pavers, cranes, forklifts, water trucks and other heavy-duty construction equipment. Staging of construction equipment and materials will occur within the footprint of the project site and within the right-of-way of Edith and Madison streets if necessary (through the issuance of an encroachment permit).

Inclusionary Affordable Housing

The project is required to include onsite affordable housing units pursuant to Petaluma's IZO §3.040. As an ownership project, the ordinance calls for 7.5% of new residential units to be dedicated at the low-income level and 7.5% at the moderate-income level. With 30 units, the IZO requires five onsite affordable units unless an alternative means of compliance is sought and approved by City Council. The project proposes to offer five units at the required affordability levels to income-qualified residents.

2.3. PUBLIC OUTREACH

Pursuant to City of Petaluma Resolution No. 2018-107 N.C.S., one public outreach event was held to obtain feedback from the community. All property owners within 1,000 feet of the project site were notified of the public outreach meeting via U.S. Mail on August 29, 2019. The public outreach meeting took place on September 25, 2019, at 7 p.m. and was held at the City of Petaluma Community Center. Those in attendance at the public outreach meeting expressed concerns about adequate parking supply for Clover Stornetta employees, the future condition and maintenance of the public open space area adjacent to the Lynch Creek Trail, and traffic impacts from the project.

The project was reviewed by the City of Petaluma's Recreation, Music and Parks Commission on July 15th and by the Pedestrian and Bicycle Advisory Committee on August 7th, 2019. Input on the multi-use trail, park enhancement, pedestrian and bicycle safety elements, and the proposed re-configuration from a Class I to Class III bicycle facility on the Edith Street frontage were received at the respective meetings. Project design revisions resulting from comments at these meetings were incorporated into revised submittals and are reflected in the project plans.

Additional meetings occurred between the applicant team and Clover Stornetta, Friends of Lynch Creek Trail and Friends of the Petaluma River. The Riverbend development team met with Clover Stornetta representatives to discuss the project and adjacency considerations. The representatives expressed concern for the impacts their facility operations may have on the new homes. To minimize potential land use conflict the applicant team introduced an 8-foot-tall doubled sided wooden fence along the southern property line and proposes to include sound rated windows and doors and Merv13 air filtration systems for new residences along the site's southern boundary, adjacent to the Clover Stornetta operations.

Friends of Lynch Creek Trail were consulted to discuss the preferred path options for upgrades to the Class I facility, noting that some members of the group prefer a more natural path.

The project development team reached out to Friends of the Petaluma River; however, the group has not provided feedback on the project as of the date of this document.

2.4. ENTITLEMENTS & APPROVALS

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

1. Rezone from R3 to a Planned Unit Development (The Riverbend PUD)
3. Vesting Tentative Subdivision Map
2. Site Plan and Architectural Review (SPAR)

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

- Sonoma Water (formerly Sonoma County Water Agency) - Approval of the Hydrology Study and Stormwater Control Plan

- Regional Water Quality Control Board – Water quality certificate in accordance with Section 401 of the Clean Water Act

- Army Corps of Engineers – Water quality permits in accordance with Section 404 of the Clean Water Act

3. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

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

On the basis of this initial evaluation:

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

Olivia Ervin

Olivia Ervin, Principal Environmental Planner
for the City of Petaluma

May 21, 2020
Date

4. EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

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

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

7) The explanation of each issue should identify:

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

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

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

4.1. AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); California Scenic Highway Mapping System, Scenic Highway System Lists, accessed November 2019; Photometric Plan, Associated Lighting Representative, August 2019; Landscape Site Plan for 529 Madison Street, prepared by Steven J Lafranchi & Associates, January 14, 2020; and Riverbend Tree Inventory prepared by Becky Duckles, January 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 traversed by the Petaluma River and tributaries that contribute to the aesthetic quality of the City. A long-established urban form within City limits contrasts with the surrounding natural and agricultural features.

The project site is located within the Payran-McKinley subarea, which includes a variety of residential housing densities. Surrounding the project site are single-family residential units to the north and east, the Clover Stornetta facility to the south, and west, beyond Petaluma River is undeveloped open space. The project site is situated within a well-established neighborhood that had been occupied with a mix of residential and industrial uses. Aesthetic and visual resources present in the project area are limited to views of the Petaluma River corridor and intermittent views of the Sonoma Mountains to the northeast.

The project site is located in an urban area surrounded by urban uses on three sides. To the north and east are existing residential development and to the south is the existing Clover Stornetta facility. The project site is currently a vacant lot that is highly disturbed consisting of ruderal grasses, uneven fill, and a concrete pad. The site contains regularly mowed non-native grasses and native and ornamental trees. Trees are confined to specific areas of the site including a narrow strip of trees is located adjacent to the Petaluma River, a cluster of trees in the southeastern portion of the site, and four ornamental street trees along Edith Street. Although there is no onsite lighting, existing street lighting is located on Edith Street and Madison Street. Additionally, the Clover Stornetta facility contains several lighting features including wall-mounted lights and pole mounted lights in parking and circulation areas.

Aesthetics Impact Analysis:

4.1 (a) (Scenic Resource or Vista) No Impact: The General Plan 2025 EIR (Figure 3.11-1) identifies hills to

the west and south of the City, vistas of Sonoma Mountain, and land along the Petaluma River as local scenic resources. The General Plan 2025 EIR utilizes the following three public viewpoints to determine potential adverse effects upon the aforementioned vistas: (a) Washington Street overpass; (b) McNear Peninsula; and (c) Rocky Memorial Dog Park.

The project is not located near the McNear Peninsula or Rocky Memorial Dog Park public viewpoints and would not be visible from the Washington Street overpass. The proposed two-story buildings would not change views of Sonoma Mountain or the Petaluma River as currently viewed from the three designated public viewpoints. Therefore, no impacts to scenic resources will result from the development of the proposed project.

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

4.1 (c) (Degrade Visual Character or Conflict with Scenic Quality) Less Than Significant Impact: The site is surrounded by urban uses including single and two-story residential development to the north, single-story residential to the east and the Clover Stornetta facility to the west. Although the project proposes a zoning map amendment from Residential 3 (R3) to a Planned Unit Development, the development pattern is consistent with the surrounding character. The project proposes evenly spaced lots with consistent front, rear and side yard setbacks. Landscaping, curbs, gutters, sidewalks, streetlights and street trees consistent with City standards are also proposed. New utilities extended onsite will be installed underground. The project would introduce a residential subdivision and public improvements along the Lynch Creek Trail in a manner that is compatible with the established neighborhood character and complimentary to the scenic quality in the project site vicinity. Therefore, environmental impacts due to a degraded visual character would be less than significant.

Petaluma's General Plan DEIR (Impact 3.11-2) recognizes that new development along the Petaluma River could adversely affect the visual character of the natural river corridor. The project would not result in adverse visual impacts to the Petaluma River. The project enhances access to the Petaluma River, proposes improvements to the Lynch Creek Trail, introduces native trees and landscaping, and fosters greater connection to the river through new public seating, pathways and appropriate low-level lighting. Therefore, the project would have a less than significant impact related to an adverse impact to the Petaluma River.

4.1 (d) (Light and Glare) Less Than Significant Impact: The project will result in new lighting associated with exterior and interior residential lighting, landscaping, and headlights from vehicles entering and exiting the project site. Bollard style lighting would be introduced along the Lynch Creek Trail. New lighting introduced by the project would be consistent with lighting levels in the immediate vicinity similar to established residential uses immediately to the north and east of the project site. Landscaping introduced onsite would soften glare from headlights traveling along the New Private Street. A preliminary photometric plan depicting proposed illumination levels from new street lighting along Edith Street and Madison Street demonstrates compliance with the standards of IZO §21.040(D), which provides that indirect and direct glare shall be below 3-foot candles. Therefore, the project's potential light and glare impacts would be less than significant.

Aesthetics Mitigation Measures: None required.

4.2. AGRICULTURAL AND FORESTRY RESOURCES

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

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

Agricultural and Forestry Setting: Agricultural lands within Petaluma's Urban Growth Boundary (UGB) are defined by California's Farmland Mapping and Monitoring Program (FMMP) which surveys and tracks the cultivation and grazing of agricultural lands within six years of the survey. According to Sonoma County's FMMP from 2016, agricultural lands within Petaluma include "Farmland of Local Importance" and "Grazing Land" as well as non-agricultural uses as "Other Land" and "Urban and Built-Up Land". The Sonoma County Draft Vital Lands Initiative maps the county's natural resources, including conifer forests, priority shrublands and hardwood forest. The county's Draft Vital Lands Initiative has not identified forestlands within the City of Petaluma. According to mapping by FMMP and Vital Lands, no agricultural or forestland designations are present on or near the project site.

Agricultural and Forestry Impact Analysis:

4.2 (a-e) (Farmland Conversion, Williamson Act, Forestland/Timberland Conflict) No Impact: The project site does not include any agricultural or forested lands according the Sonoma County FMMP 2016 and Sonoma's Draft Vital Lands Initiative. The project, as proposed, consists of infill development located on a vacant lot and will not impact FMMP prime farmland, unique farmland or farmland of statewide importance. The project will not interfere with Williamson Act contracts or any existing agricultural uses. Thus, the project will not conflict with current agricultural zoning or lead to the loss of farmland.

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

Agricultural and Forestry Mitigation Measures: None required.

4.3. AIR QUALITY

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

Sources: City of Petaluma General Plan and EIR; BAAQMD 2017 Bay Area Clean Air Plan; and BAAQMD CEQA Guidelines May 2017; Riverbend Residential Development Air Quality & Greenhouse Gas Emissions Assessment, prepared by Illingworth & Rodkin, January 7, 2020; MTC Vital Signs website – Peak 24-Hour Average Fine Particulate Concentrations, accessed November 2019; Sonoma-Marin Area Rail Transit DEIR, November 2005; Sonoma-Marin Area Rail Transit SEIR, March 2008; Bay Area Air Quality Management District website, Air Quality Index – Fine Particulate Matter, accessed November 2019.

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

The Bay Area Air Basin is designated as non-attainment for both the one-hour and eight-hour state ozone standards; 0.09 parts per million (ppm) and 0.070 ppm, respectively. The Bay Area Air Basin is also in non-attainment for the PM_{10} and $PM_{2.5}$ state standards, which require an annual arithmetic mean (AAM) of less than 20 µg/m^3 for PM_{10} and less than 12 µg/m^3 for fine particulate matter ($PM_{2.5}$). In addition, the Basin is designated as non-attainment for the national 24-hour $PM_{2.5}$ standard although the EPA recognized the Air District as achieving the attainment in 2013.[2] The nearest BAAQMD air monitoring station to the project site is located in Sebastopol which reports an annual level of PM2.5 at 5.6 µg/m^3, below the required AAM. All other national ambient air quality standards (NAAQS) within the Bay Area Air Basin are in attainment.

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

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

that is responsible for 70 percent of TAC emissions in the Air District.

Air quality emissions of carbon monoxide (CO), ozone precursors (ROG and NOx) and particulate matter (PM10 and PM2.5) from construction and operation are evaluated pursuant to the BAAQMD CEQA Air Quality Guidelines established in May 2010[3] and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it was expected that updated thresholds and guidelines would also be released, but none have been provided to date (November 2019). In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of Petaluma recognizes that the BAAQMD thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.[4] BAAQMD air quality thresholds are presented in **TABLE 1** below.

TABLE 1: AIR QUALITY THRESHOLDS OF SIGNIFICANCE

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

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

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

The City's General Plan sets forth policies and programs to maintain and enhance air quality. There are several policies that are particularly applicable to the subject project, including 4-P-6 to improve air quality through the planting of trees along streets, 4-P15 D to reduce emissions from residential uses, and 4-P-16 to

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

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

reduce emissions during construction.

The project is located 500 feet north of the active rail line serving Sonoma-Marin Area Rail Transit (SMART) and freight service operated by the North Coast Railroad Authority. The SMART Draft Environmental Impact Report (DEIR) and SMART Draft Supplemental Environmental Impact Report (SEIR) projected PM2.5 and cancer risk associated with diesel emissions from train passages, respectively, to fall below significant thresholds at 30 feet from the rail corridor. Measured at a distance of 30 feet, the DEIR indicates PM2.5 concentrations below 0.1 $\mu g/m^3$ while the SEIR indicates, under a scenario of weekend SMART service, cancer risk from combined passenger and freight service would be 9.2 in one million. As presented below in Table 5, new residents introduced by the project would not be exposed to elevated diesel exhaust emissions from trains.

An air quality report for the project was prepared by Illingworth and Rodkin, Inc dated January 7, 2020 titled, "Riverbend Residential Development Air Quality & Greenhouse Gas Emissions Assessment" (**Appendix A**). The Air Quality Assessment analyzes air quality, toxic air contaminants (TAC), and greenhouse gas (GHG) emissions from the project-related construction and operation activities. The report also considers the health risk exposure of new residents from the existing ambient conditions. Results of the Air Quality Assessment are presented in the impact analysis discussion below.

Air Quality Impact Analysis:

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

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

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP. In general, a project is considered consistent if a) the project supports the primary goals of the CAP, b) includes control measures and c) does not interfere with implementation of the CAP. The proposed project would have a less than significant impact due to a conflict with the CAP since, a) the project limits urban sprawl by proposing development on an infill site within existing urban limits and in close proximity to goods and services; b) includes control measures to protect air quality during construction by implementing best control measures set forth by BAAQMD; c) the project will be located near existing transit with regional connections; and d) the proposed 30-unit project would generate air quality emissions well below the BAAQMD criteria pollutant thresholds (see Table 2 below). Therefore, the project does not conflict with the regional air quality plan and impacts will be less than significant.

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

The screening level criteria for single-family residential development is shown in **Table 2** below.

Table 2: Air Quality Screening			
Land Use Type	**Operational Screening Size**		**Construction Screening Size**
Single-family	325 du (NO_X)	56 du (GHG)	114 du (ROG)

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

The project proposes the development of 30 single-family homes, which is well below the screening size for construction (114 dwelling units) and operation (325 dwelling units for criteria pollutants and 56 dwelling units for GHG's). Nonetheless, a project specific Air Quality Assessment was conducted for the proposed project. **Table 3: Construction Emissions** below shows that project generated emissions during construction will fall below BAAQMD thresholds. Therefore, the project will have a less than significant impact due to a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment.

Table 3: Construction Emissions				
	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust
Total Construction Emissions (tons)	0.4	0.5	0.02	0.02
Average daily emissions (pounds)[1]	3.5	3.8	0.2	0.2
BAAQMD Thresholds (pounds per day)	54	54	82	54
Exceed Threshold?	No	No	No	No

Source: Table 2, Riverbend Residential Development Air Quality & Greenhouse Gas Emissions Assessment, prepared by Illingworth and Rodkin, Inc., January 7, 2020.
1 Assumes 243 workdays.

For operational impact, the screening threshold established by BAAQMD is 325 residential units. As the proposed project would introduce 30 single-family homes, operational emissions will fall well below thresholds of significance. Therefore, operation of the project will not result in air quality emissions that exceed BAAQMD thresholds for ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust and impacts will be less than significant.

It should be noted that the although the air quality assessment considered 29 single-family homes rather than the proposed 30 single-family homes, the proposed development of 30 single-family homes would similarly fall well below the construction and optional screening thresholds for criteria pollutants. Therefore, impacts due to a cumulatively considerable net increase of criteria pollutants will be less than significant.

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

The project site is near existing sensitive receptors including adjacent single-family residential uses to the east and north, as well as schools and daycares in the project vicinity. The McKinley Elementary School is 0.21 miles to the northeast. There are several day care operators in the project vicinity, with the nearest on Madison Street, approximately 265 feet north of the project site. Residential uses, schools and day cares are sensitive receptors because people (children, elderly) are often at home/school for extended periods of time.

The Air Quality Assessment includes an evaluation of potential construction related impacts on existing surrounding sensitive receptors. The maximum exposed individual (MEI) assesses the risk impacts at the sensitive receptors that would be most affected by construction related air quality emissions. **Table 4: Combined Risk at Construction MEI** presents the health risk of existing sensitive receptors in the immediate project vicinity. As shown in Table 4, neither the single-source threshold nor the cumulative source threshold is exceeded by the proposed project during construction. Therefore, potential impacts to nearby sensitive receptors will be less than significant.

Table 4: Combined Risk at Construction MEI			
Source	**Cancer Risk (per million)**	**Acute and Chronic Hazard Index**	**PM2.5 concentration (µg/m3)**
Proposed Project Construction	7.7	0.01	0.1
BAAQMD Single-Source Threshold	***>10.0***	***>1.0***	***>0.3***
Significance?	No	No	No
Clover Stornetta Farms Inc (Plant #13322, generator) at 430-ft	1.4	<0.01	<0.01
Clover Stornetta Truck Impacts	<20.1	<0.01	<0.1
Hunt and Behrens, Inc (Plant #106418, gas dispensing facility) at >, 1,000-ft	0.2	<0.01	-
Hunt and Behrens, Inc (Plant #1889) at >, 1,000-ft	<1.0	<0.01	0.06
Santa Rosa Grand Petroleum, Inc (Plant #109754, gas dispensing facility) at 850-ft	0.3	<0.01	<0.1
Santa Rosa Grand Petroleum, Inc (Plant #111595, gas dispensing facility) at 1,000-ft	0.6	<0.01	-
SMART and NCRA shared corridor	<9.2	<0.02	<0.1
Combined Total	<40.5	<0.08	<0.27
BAAQMD Cumulative Source Threshold	***>100***	***>10.0***	***>0.8***
Significant	No	No	No

Source: Table 5, Riverbend Residential Development Air Quality & Greenhouse Gas Emissions, prepared by Illingworth & Rodkin, Inc., January 7, 2020.

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

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

Land Use Compatibility with Existing Ambient Air Quality

The project would introduce new sensitive receptors, residents, to an area with elevated air quality emissions due to existing operational activities at the adjacent Clover Stornetta facility located at the project site's southern boundary. In addition to Clover Stornetta, other sources of toxic air contaminants (TAC) within 1,000 feet of the project site include Hunt and Behrens, Santa Rosa Grand Petroleum – Grand Valero Gas Station, and the SMART corridor.

Table 5 below shows that other than Clover Stornetta, none of the existing source emitters within 1,000 feet of the project site would result in health risks due to an exceedance of an established threshold. Hunt and Behrens, Santa Rosa Grand Petroleum, and the SMART corridor are located a sufficient distance from the site such that emissions generated by these uses would not adversely affect new residents onsite either individually or combined. The adjacent Clover Stornetta facility generates TAC emissions from an on onsite generator, when in use, and from the routine operation of diesel trucks.

Table 5: Impacts from Combined Sources at Project Site			
Source	**Maximum Cancer Risk (per million)**	**Hazard Index**	**PM2.5 concentration (µg/m3)**
Clover Stornetta Farms Inc (Plant #13322, generator) at 200-ft	3.8	<0.01	<0.01
Clover Stornetta Truck Impacts			
Unmitigated	**20.1**	0.01	<0.1
Mitigated	6.0 to 9.7	<0.01	<0.1
Hunt and Behrens, Inc (Plant #106418, gas dispensing facility) at 700-ft	0.1	<0.01	-
Hunt and Behrens, Inc (Plant #1889, multiple sources) at 700-ft	<0.1	<0.01	0.09
Santa Rosa Grand Petroleum, Inc (Plant #109754, gas dispensing facility) at 900-ft	0.26	<0.01	-
Santa Rosa Grand Petroleum, Inc (Plant #111595, gas dispensing facility) at 1,000-ft	<0.01	-	-
SMART and NCRA shared corridor	9.2	<0.02	<0.1
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Unmitigated Significant?	***Yes***	*No*	*No*
Mitigated Significance?	*No*	*No*	*No*
Combined Total	34.4	<0.06	<0.2
BAAQMD Cumulative Source Threshold	***>100***	***>10.0***	***>0.8***
Significant?	*No*	No	No

Source: Table 4. p.16, Riverbend Residential Development Air Quality & Greenhouse Gas Emissions, prepared by Illingworth & Rodkin, Inc., January 7, 2020.

The Clover Stornetta facility uses a variety of vehicles (trucks, milk tankers, and delivery trucks) as part of daily operations. The Air Quality model estimates that approximately 60 truck trips per day are generated by routine operations. Around half of these truck trips utilize in-use diesel-fueled transport refrigeration units (TRUs) mounted on the trailers, which provide refrigeration for perishable goods. The Air Quality model estimates that half (30) of the daily truck trips are made by trucks with TRUs. The Air Quality Report utilizes U.S. EPA ISCST3 dispersion model to estimate the diesel particulate matter concentrations generated by trucking activities of the Clover Stornetta facility at the subject project site. As shown in Table 5 above, without mitigation, new residents introduced onsite would be exposed to an elevated cancer risk (20.1 per million), which exceed BAAQMDs established single source threshold (10 per million).

Although air quality emissions are not caused by the project, the project would introduce new sensitive receptors to an area with elevated air quality emission levels that would increase the cancer risk to unacceptable levels, and result in a direct conflict with General Plan policy 4-P-17, which states:

> "To avoid potential health effects and citizen complaints that may be caused by sources of odors, dust from agricultural uses, or toxic air contaminants the following measures may be considered:
>
> - Include buffer zones within new residential and sensitive receptors site plans to separate those uses from potential sources of odors, dust from agricultural uses and station sources of toxic air contaminants.

Because the project will introduce new sensitive receptors to an area with elevated TAC concentrations, the project creates a potential land use conflict with the City's General Plan policy 4-P-17. Pursuant to this policy a buffer zone was considered but determined to be infeasible without substantially compromising the site's ability to support residential development, in part due to the narrow width of the subject property. In lieu of a buffer, alternate strategies were considered. The Air Quality Report recommends that all new homes built along the shared boundary with Clover Stornetta, within 100 feet of the site's southern boundary, be designed to incorporate high-efficiency particulate filtration systems in heating, ventilation, and air conditioning (HVAC) systems. The air filtration devices must consist of MERV13 or higher rating and be properly maintained to

ensure the MERV13 air filter achieves the projected 70 to 80-percent reduction in cancer risk. With ongoing maintenance and installation of MERV13 filtration standard or higher, air quality concentrations of TAC and particulate matter and corresponding cancer risks would be reduced to between 6 and 9.7 per one million.

The difference in filtration levels (70 to 80 percent) depends upon the new home construction including sealed, inoperable windows and no balconies. With inclusion of the residential air filtration system, new residents introduced onsite would be exposed to cancer risks below BAAQMD's thresholds of 10 per one million.

Since the project itself is not responsible for generating elevated air quality concentration and will not expose existing sensitive receptors to health risks, the project is not subject to mitigation for air quality. However, because the project is introducing new sensitive receptors to a site that is exposed to elevated ambient air quality emissions a potential land use conflict may occur and mitigation is set forth below in the Land Use Section. **Mitigation measure LU-1** provides for the inclusion of MERV13 filtration and ongoing maintenance for all new homes within 100 feet of the Clover Stornetta facility. Therefore, as mitigated, the project would not result in impacts to sensitive receptors nor would the project introduce a potential health risk due to a land use conflict.

4.3 (d) (Other Emissions or Odor) Less Than Significant Impact: There may occasionally be localized odors during site development associated with construction equipment, paving and the application of architectural coatings. Any odors generated during construction would be temporary and not likely to be noticeable beyond the immediate construction zone. As a residential development, operation of the project will not create objectionable odors affecting a substantial number of people. Furthermore, Illingworth and Rodkin's project investigations indicate the existing conditions of the project area do not generate odor complaints generated by the Clover Stornetta facility. Therefore, the project will have less than significant impacts to air quality due to objectionable odors introduced by the project and perceived by new residents.

Air Quality Mitigation Measures:

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

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper working condition prior to operation.
8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

4.4. BIOLOGICAL RESOURCES

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

Sources**:** City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); Landscape Site Plan for 529 Madison Street, prepared by Steven J. Lafranchi & Associates, January 2020; Riverbend Tree Inventory prepared by Becky Duckles, January 13, 2020; Biological Resources Analysis, prepared by Monk & Associates, March 15, 2019; and Petaluma River Access and Enhancement Plan, May 1996.

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

The Regional Water Quality Control Board (RWQCB) is responsible for implementing Section 401 of the Clean Water Act through the issuance of a Water Quality Certification when development includes potential impacts to jurisdictional areas such as creeks, wetlands or other Waters of the State. The Army Corps of Engineers

(Corps) regulates activities that dredge or fill material in Waters of the United States under Section 404 of the Clean Water Act. Projects that impact waters of the US are required to obtain a permit from the Corps prior to activities that dredge or fill water of the United States. A 0.04-acre seasonal wetland is in the north western corner of the project site and was confirmed by the Army Corps of Engineers as a jurisdictional feature. As such, the project is subject to a 401 permit from the RWQCB and a 404 permit from the Corps.

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

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

An Arborist Report for the Riverbend Project inventoried trees onsite and set forth recommendations for protection or removal (**Appendix B**). The Arborist Report assessed a total of 54 trees including trees located onsite and in the project vicinity. To accommodate the proposed development and associated improvements a total of 13 trees, consisting of four Red Maples, five coast live oaks, two Monterey pines, one London Plane, and one Black Walnut, are proposed for removal. Of the 13 trees to be removed under the proposed project, 5 (coast live oaks) are considered protected species under the City's Tree Preservation Ordinance.

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.

Biological Resources Assessment

A project-specific Biological Resources Assessment (**Appendix C**) was prepared by Monk & Associates, Environmental Consultants, in March 2019. The study area includes 3.36 acres on a highly disturbed parcel dominated by ruderal grasslands and containing a 0.04-acre jurisdictional wetland. The Petaluma River is adjacent to the project site (to the west) and contains a narrow riparian corridor. Due to past disturbances on the site, less than two percent of the site is comprised of native perennial plant species. The area proposed for residential development contains non-sensitive communities comprised of non-native annual grasslands adapted to highly disturbed conditions. The non-sensitive communities within the study area include non-native grasslands dominated by non-native starthistle, as well as ox-tongue, common knotweed, cheeseweed, hairy catsear, short-podded mustard, Bermudagrass, bitter lettuce, and prickly lettuce.

Sensitive Communities

Sensitive communities within the study area include the narrow riparian corridor along the east bank of the Petaluma River and a 0.04-acre seasonal wetland located in the northeastern portion of the project site.

The Petaluma River adjacent to the project site is a tidal slough receiving fresh water from the upstream watershed and is tidally influenced from downstream. At the project site, the Petaluma River has an approximate width of 50 feet at the ordinary high-water mark and a width of approximately 100 feet between the tops-of-banks. The riparian vegetation is restricted to a narrow corridor between the existing Lynch Creek Trail and the Petaluma River and includes coast live oaks and valley oaks. The riparian corridor has been altered from its natural state due to ongoing flood control and channelization.

The Petaluma River provides aquatic habitat for several sensitive fish species and riparian habitat for migratory birds, a variety of common bird species, and raptors. All project improvements are proposed outside of the top

of bank of the river and beyond the dripline of riparian trees. Improvements adjacent to the riparian corridor are limited to upgrades along the existing Lynch Creek Trail including the proposed public park, which will be planted with native trees and vegetation.

The existing seasonal wetland (0.04 acres) located in the northeastern portion of the project site collects surface runoff from rainwater and remains inundated for several weeks to months during the rainy season. The wetland is dominated by frog-fruit, Harding grass, curly dock, and English plantain. The seasonal wetland is within the jurisdiction of the U.S. Army Corps of Engineers under 404 of the Clean Water Act (CWA) and has been delineated as "waters of the United States." Additionally, the seasonal wetland is considered "waters of the state" by the Regional Water Quality Control Board under 401 of the CWA.

Special-Status Species

As detailed in the Biological Resource Assessment, special-status plant and animal species known to occur within 3 miles of the project were identified including 14 special-status plants and 15 special-status animal species. Two years of special-status plant surveys were conducted on the project site in accordance with CDFW (2009), CNPS (2001), and USFWS (2000) survey guidelines, with negative results.

Of the 15 special-status animal species known to occur within 3 miles of the project site, none have ever been mapped on or adjacent to the project site. Details on these animal species ranges, habitat and foraging preferences, and occurrence potential are provided in the Biological Resources Assessment and summarized in the impact analysis below.

Biological Resources Impact Analysis:

4.4 (a) (Special Status Species) Less Than Significant with Mitigation: The project site is immediately adjacent to the Petaluma River, which contains suitable habitat for four special-status fish species (Steelhead Trout, Chinook Salmon, North American Green Sturgeon, and Sacramento Splittail). The proposed project does not involve any activities that would directly or indirect impact the Petaluma River. Therefore, there will be no impacts to special status fish species from the proposed project.

The project site has limited potential to support special status species due to past disturbance, fragmentation and lack of suitable habitat. California Tiger Salamander, Red Legged Frog, and Western Pond Turtle were specifically considered and determined to have low occurrence potential onsite and in the project vicinity due to lack of suitable breeding and migration habitat. Therefore, the project will have no impacts to these special-status animal species.

Adjacent to the Petaluma River is a narrow riparian corridor that may provide suitable nesting or foraging habitat for special status species including the Salt marsh common yellowthroat and the San Pablo Song Sparrow (California Species of Conservation Concern). Additionally, the riparian corridor may support 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.

Potential impacts from the proposed project to the special-status bird species or other birds protected under the MBTA, include disturbance to nesting birds, and possibly death of adults and/or young if not properly mitigated. To avoid impacts to special status bird species, **Mitigation Measure BIO-1** shall be implemented. Mitigation Measure BIO-1 requires that activities occur outside of the nesting season from September 1 through January 31 or that pre-construction surveys be conducted 14 days prior to start of work. With implementation of Mitigation Measure BIO-1, potential impacts to special-status birds, including those protected under the MBTA would be reduced to less than significant levels.

The project site and vicinity have low potential to support the pallid bat, a CDFW species of special concern. Bats could potentially roost in tree cavities and if present could be adversely affected during construction or tree removal. Impacts to special status bat species would be considered a potential impact and can be avoided through implementation of **Mitigation Measure BIO-2**. Measure BIO-2 requires pre-construction bat roost surveys be performed by a qualified biologist no more than 15 days prior to start of construction. In the event

that roosts are identified, BIO-2 requires the biologist to asses if young are present and if so, then a protective barrier shall be installed around the roosting tree until the young are flying and feeding on their own. If only adults are observed with no maternal sites identified, the adults can be flushed away, or a one-way eviction door placed over the tree cavity.

With implementation of mitigation measure BIO-1 and BIO-2, potential impact to special status species will be avoided and impacts will be reduced to levels below significance.

4.4 (b) (Sensitive Communities) Less Than Significant: There are no sensitive communities that will be impacted by the proposed project. The project site is dominated by ruderal vegetation and lacks sensitive communities. The Petaluma River and the narrow riparian corridor will not be directly or indirectly affected by project activities during construction nor at operation. All improvements will occur above the top of bank and outside the drip line of trees along the riparian corridor. The proposed project will not construct any new stormwater outfalls that discharge to the river and will utilize the existing City storm drain system to convey stormwater runoff from the project site. Therefore, there will be no adverse impacts to the aquatic and riparian habitats of the Petaluma River. Other than the 0.04-acre wetland onsite, further addressed below under item 4.4(c), there are no sensitive communities onsite. Therefore, impacts to sensitive communities will be less than significant.

4.4 (c) (Jurisdictional Waters) Less Than Significant with Mitigation: The project proposes fill to a 0.04-acre seasonal wetland that is subject to the Corps' and RWQCB's respective jurisdiction of Section 404 and 401 of the Clean Water Act (CWA). Fill to the wetland is considered a potentially significant impact to jurisdictional waters (water of the United States and/or State). To offset impacts to wetland resources, **Mitigation Measure BIO-3** shall be implemented, which requires the purchase of mitigation credits at a 1:1 ratio (acres created and preserved: acres impacted). These credits would be purchased from a Corps and RWQCB-approved mitigation bank. In lieu of purchasing wetland mitigation credits, a new seasonal wetland may be created, preserved and managed, at an appropriate offsite location at a 2:1 mitigation ratio as described in measure BIO-3 below. With implementation of mitigation measure BIO-3 and adherence to regulatory permit conditions, the project's impacts to jurisdictional waters will be reduced to levels below significance.

4.4 (d) (Wildlife Movement) No Impact: The proposed project will not interfere with the movement of native wildlife. Movement corridors in the project vicinity are absent other than the narrow linear riparian corridor adjacent to the Petaluma River. The riparian corridor adjacent to the project site provides limited value as a movement corridor due to past disturbance, the existing Lynch Creek Trail, and fragmentation. Furthermore, an existing chain link fence occupies the western site boundary, thereby precluding wildlife movement from the riparian corridor onto the project site. Additionally, the existing outfall structure to the Petaluma River is located well above the ordinary high watermark and is equipped with a tideflex valve, which prevents backflow into the outfall pipe. The outfall valve allows water to flow outward, while precluding Petaluma river water from entering the pipe. The project does not propose any changes to the existing outfall, nor does it propose any new outfalls to the Petaluma River. As such, fish and other aquatic species, moving along this creek segment will not be impacted by the proposed project. Furthermore, the existing riparian corridor will be retained, and additional native species will be planted. As such, avian and other terrestrial species moving along the riparian corridor will not be adversely impacted by the proposed project. Therefore, impacts to wildlife movement from the proposed project will be less than significant.

4.4 (e) (Conflict with Local Policies or Ordinances) Less Than Significant Impact with Mitigation: There are no identified state or federal plans that include the project site as a priority for biological priority for protection and/or stewardship. Local policies include the Petaluma River Access and Enhancement Plan (RAEP) as well as General Plan policies. The purpose of the City's RAEP is to guide the community's vision for riverfront uses, activities and development. The segment of the River adjacent to the subject project area is designated as the Payran Residential Segment. The RAEP calls for this segment to integrate new development with riverfront public access, habitat preservation/enhancement, and flood mitigation.

Petaluma's General Plan Policy 4-P-1 is intended to protect and enhance the Petaluma River system through a series of management programs. This includes instituting public access along the trail, creating a 50-foot setback from significant aquatic resources, improving water quality of the river, expanding native trees and plants along the riparian corridor, and enhancing wayfinding, site furniture and educational signage.

The project is generally consistent with the RAEP and Policy 4-P-1. The proposed project includes improvements to Lynch Creek trail and construction of a new open space park adjacent to and accessible from the trail. No trees or vegetation will be removed from the riparian corridor. The project proposes to introduce new native trees, grasses and vegetation along the Lynch Creek Trail and within the new open space park area. Proposed improvements located outside of the top of bank and the riparian corridor include outdoor furniture, such as a metal swing bench, picnic area, and bench seating. Thus, the project does not conflict with the RAEP or policies of the General Plan intended to protect biological resources.

As described above, in accordance with the City of Petaluma's Tree Preservation Ordinance the Riverbend Tree Inventory was prepared, which assessed a total of 54 trees onsite and in the project vicinity. A majority of the trees inventoried, including all trees along the riparian corridor, will be retained under the proposed development. A total of 7 unprotected trees (Red maple, London plane, Monterey pine, and black walnut) and 5 protected trees (Coast live oak) will be removed to accommodate the proposed project.

To avoid a potential conflict with the City's Tree Preservation Ordinance due to the removal of 5 protected trees and to ensure that trees to remain are adequately protected during construction, **Mitigation Measures BIO-4** and **BIO-5** shall be implemented. Mitigation Measure BIO-4 requires that adequate tree replacement be acquired, and BIO-5 requires establishment of construction preclusion zones around tree driplines, arborist input, pre-construction meetings and other protection measures for trees to remain.

In accordance with the City's replacement schedule contained in Chapter 17 (Tree Preservation) of the IZO, tree mitigation may be in the form of in-kind replacement, in-lieu replacement, or a combination of both. The five protected trees that will be removed are Coast live oak with a total DBH of 205-inches that must be replaced at 1:1 ratio or better. The applicant proposes both onsite mitigation through replanting native trees and offsite mitigation through the payment of in-lieu fees. The total onsite mitigation includes planting 13 new trees in 36-inch boxes, with three-inch DBH totaling 39 inches of replacement planting onsite. The remaining 166 inches of replacement planting mitigation will be met through the payment of in-lieu fees, which will cover the cost and labor to install 83 24-inch box natives trees or equivalent at an offsite location. Implementation of measure BIO-4 would reduce potential impacts due to a conflict with the City's tree preservation ordinance. Therefore, impacts would be reduced to less than significant levels.

4.4 (f) (Conflict with Habitat Conservation Plan) No Impact: There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other regional or state habitat conservation plan that exists for Petaluma. No impact would result under this criterion.

Biological Resources Mitigation Measures:

BIO-1: For the protection of special-status birds, and native nesting birds protected by the MBTA and the CDFW, project development activities shall occur outside of the bird nesting season, to the extent feasible. If development activities must occur during the nesting season (February 1 – August 31), a qualified biologist shall conduct a nesting bird survey no more than 14 days prior to the commencing the Project activities. The nesting survey shall include an examination of all trees onsite and within 200 feet of the development footprint (i.e., within a zone of influence of nesting birds), not just trees slated for removal. The zone of influence includes those areas outside the project site where birds could be disturbed by earth- moving vibrations and/or other construction-related noise.

If the biologist does not identify active bird nests during the surveys, no impacts will occur to birds and work may progress without restriction.

If active nests are identified, an appropriately sized temporary buffer around the nest shall be installed under the oversight of a qualified ornithologist/biologist to avoid impacts to nesting birds. The buffer size will be determined by the qualified biologist depending on the bird species, and typically range from 50 feet for small birds and up to 300 feet for raptors. A qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed. No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified

ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later and will be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed, and construction may commence in established nesting buffers without restriction.

BIO-2: To avoid impacts to pallid bats, a "species of special concern" in the state, a qualified biologist shall conduct a bat survey 15 days prior to the commencement of ground work. If no special-status bats are found during the survey, then construction may begin without restriction.

If special-status bat species are found roosting on the project site, the biologist shall determine if there are young present (i.e., the biologist should determine if there are maternal roosts). If young are found roosting in any tree that will be impacted by the project, such impacts shall be avoided until the young are flying and feeding on their own. A non-disturbance buffer installed with orange construction fencing will be established around the maternity site. The size of the buffer zone will be determined by a qualified bat biologist at the time of the surveys. If adults are found roosting in a tree on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door can be placed over the tree cavity for a 48-hour period prior to the tree removal.

BIO-3: To offset fill to 0.04 acres of Waters of the United States and the State, the applicant shall purchase mitigation credits at a 1:1 mitigation ratio or as otherwise required by the Army Corps of Engineers and the Regional Water Quality Board. Wetland mitigation credits shall be purchased from a Corps and RWQCB-approved mitigation bank. The Burdell Ranch Wetland Conservation Bank Service Area covers this project site and purchase from this bank or other acceptable bank as determined by the Corps and RWQCB could satisfy this mitigation requirement.

In lieu of purchasing wetland mitigation credits, a Wetland Mitigation and Monitoring Plan (WMMP) at a 2:1 mitigation ratio shall be prepared by a qualified restoration ecologist and presented to the City/Corps/RWQCB prior to placement of fill in the wetland. The WMMP shall include a description of the impacted wetland, a map of the mitigation site with existing conditions, a description of the new wetland, wetland construction approach, landscape plan, monitoring methods and successful WMMP criteria, contingency measures if success measures are not met, and short-term and long-term management and monitoring plans. A conservation easement, as defined by Section 81.5.3 of the California Civil Code, preserving the created wetland in perpetuity and establishing an endowment to fund long-term management, maintenance and monitoring, shall be granted to a qualified entity.

BIO-4: 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 five protected trees onsite, shall be replaced at a one-to-one trunk diameter basis. Replacement trees shall be at the minimum a 24-inch box size. Replacement trees shall be planted within the Project boundaries to the extent feasible, and the applicant shall pay in lieu fees to cover the cost of labor and materials for offsite replacement.

BIO-5: To protect existing trees that will be preserved, the project applicant shall implement the following measure as set forth in Zoning Ordinance 17.050, Preservation of Existing Trees in Development Proposals:

- Plastic or chain link tree protection fencing shall be installed at the driplines of trees to be preserved
- A pre-construction meeting shall occur with the tree service to perform pruning in consultation with the arborist to agree on the extent of pruning as warranted
- Pruning shall be to the minimum extent necessary for hazard reduction and access, vertical clearance and crown restoration and shall be conducted in accordance with ISA pruning guidelines and SNASI 300 standards
- The Project arborist shall be notified 48 hours in advance to be present when grading or trenching will occur within the driplines of trees to be preserved

- No parking, storage of materials, disposal of waste, operation of equipment, or other construction activity shall occur within the dripline of trees to be preserved
- Four inches of arbormulch shall be applied to the soil surface within the dripline of trees to be preserved. No arbormulch shall be introduced within the riparian corridor.
- The arborist shall take the necessary measures to ensure that Coast live oak (#11), possibly infected with Sudden Oak Death is properly treated and managed to preclude spread of Sudden Oak Death.

4.5. CULTURAL RESOURCES

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

Sources: City of Petaluma General Plan 2025 and EIR; and Cultural Resources Report for the Riverbend Project, prepared by Dudek, May 12, 2020.

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

A Cultural Resources Report was prepared by Dudek that documents the potential occurrence of cultural and paleontological resources (**Appendix D,** confidential) onsite and in the project vicinity. The report includes a records search at the Northwest Information Center (NWIC), a Native American Heritage Commission (NAHC) Sacred Land file search, an intensive pedestrian survey, and extended phase I auguring to investigate subsurface conditions. Results of the Cultural Resources Report are presented in the impact analysis discussion below.

Cultural Resources Impact Analysis

4.5 (a) (Historical Resource) No Impact: The project site is not located within a historic district and does not contain a designated historic landmark. The Cultural Resources Report found no evidence of previous buildings or structures onsite that would be considered significant historical resource or eligible resources pursuant to the criteria for listing in the California Register of Historic Resources. The project site lacks buildings and structures including those listed as historic or eligible for listing. Therefore, the project will have no impacts to historical resources.

4.5 (b) (Archaeological Resources) Less than Significant with Mitigation: The City of Petaluma has a rich archeological history due to the presence of the Coast Miwok Indians prior to European settlers in California. As such, undisturbed lands within the Urban Growth Boundary, particularly lands in the vicinity of ridgetops, midslope terraces, alluvial flats, ecotones, and sources of water have a greater possibility of containing prehistoric archaeological resources. Potentially significant archeological resources include, but are not limited

to concentrations of artifacts or culturally modified soil deposits, modified stone, shell, bone, or other cultural or tribal cultural materials such as charcoal, ash, and burned rock indicative of food procurement or processing activities, or prehistoric domestic features including hearths, fire pits, or house floor depressions or other such historic artifacts (potentially including trash pits and all by-products of human land use greater than 50 years of age).

As presented in the Cultural Resources Report, no archeological resources were identified during the intensive level pedestrian survey. Subsurface auguring did not encounter potential archeological deposits, although one possible prehistoric fragment was identified. Furthermore, the NWIC records and the NAHC records search did not identify the presence of cultural resources within the project site. Although records review and onsite surveys yielded negative results, the project site is located proximate to a significant prehistoric village site indicating a potential for the project site to contain subsurface cultural deposits. Given the proximity of the project site to a recognized prehistoric site, there is the potential for archeological resources, including cultural and tribal cultural resources, to be discovered during ground disturbing construction activities. In order to avoid inadvertently causing a substantial adverse change in the significance of an archaeological resource, should such resources be unearthed during construction, **Mitigation Measure CUL-1** shall be implemented. Measure CUL-1 provides for a Native American Monitor designated by the Federated Indians of Graton Rancheria to be present during ground-disturbing activities. Measure CUL-1 further provides for preconstruction training of construction crews and mandates that all work be halted if a potential archeological resource is unearthed. Additionally, CUL-1 establishes procedures to follow in the event that archeological resources are encountered, consistent with Public Resources Code §21083.2 and CEQA Guidelines §15064.5. Therefore, with implementation of CUL-1 potential impacts to archeological resources will be reduced to less than significant levels.

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

Cultural Resources Mitigation Measures:

CUL-1: To ensure protection and appropriate treatment of archeological resources in the event of inadvertent discovery the following procedures shall be complied with:

- Prior to the start of construction activities, a schedule and process to carry out tribal monitoring to be performed by a qualified archeological monitor meeting the Secretary of the Interior's Professional Qualifications for Archeology and/or a Federated Indians of Graton Rancheria representative shall be established. Monitoring shall be performed during project-related earth-disturbing activities and may be adjusted based on inspection of subsurface soils and observed potential to contain intact cultural deposits or materials at the recommendation of a qualified archeological monitor, working in collaboration with FIGR's Tribal Historic Preservation Officer, and in consultation with the City.

- The monitor and/or tribal representative shall be permitted to access the construction site, observe activities, and shall be granted authority to issue a stop work order in the event that a potential tribal cultural resource is identified.

- A professional archaeologist meeting the Secretary of the Interior's Professional Qualifications for Archeology shall conduct a preconstruction meeting with the site superintendent and contractor(s), equipment operator(s) and others prior to commencement of ground-disturbing activities to familiarize the team with the types of archaeological material that could be encountered and procedures to follow in the event that archaeological deposits are uncovered. Prehistoric

archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

- If archeological deposits are encountered during ground-disturbing activities including, but not limited to excavation, grading and construction, all work within 100 feet of the discovery shall be halted until a qualified archaeologist, who meets the Secretary of the Interior's Standards, is able to inspect the material and provide recommendations for appropriate treatment of the resource including, but not limited to, data recovery excavation, artifact curation, report preparation, and information dissemination to the public. Should a significant archeological resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Where such resources are Native American, Tribal representatives shall be notified and appropriate treatment shall be determined in consultation with Native American tribes.
- Upon completion of an assessment and/or evaluation of a potential artifact, the archaeologist shall prepare a report documenting the methods and results of the archaeological assessment/evaluation and provide recommendations for the treatment of the find. The report shall document compliance with mitigation, monitoring efforts, and include daily monitoring log. The report shall be submitted to the City of Petaluma, the Northwest Information Center, and Native American Tribe(s), as appropriate, within 60 days following completion of construction activities.

4.6. ENERGY

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

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

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

In May 2018 the California Energy Commission adopted the 2019 Building Energy Efficiency Standards (Title 24, Part 6 of the CCR). These new standards address energy efficiency at the State level and go into effect on January 1, 2020. The new standards focus on four key areas: smart residential photovoltaic systems; updated thermal envelope standards, which prevent heat transfer from the interior to exterior and vice versa; residential

and nonresidential ventilation requirements; and nonresidential lighting requirements. The 2020 building standards require that solar photovoltaic systems be installed on new single-family residences, multi-family buildings, hotels/motels, and non-residential buildings.

California Energy Consumption

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

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

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

City of Petaluma

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

The General Plan contains goals, policies and programs to reduce energy consumption. Chapter 2: Community design, Character, and Green Building identifies sustainable building strategies and practices, which minimize energy consumption. Chapter 4: The Natural Environment contains policies and programs to reduce reliance on non-renewable energy sources in existing and new development. Energy policies supporting alternative and efficient transportation systems, and the reduction of energy consumption in buildings by means of appropriate design and orientation are identified in Section 3.3: Sustainable Building and Chapter 5: Mobility. Residential energy efficiency is addressed in Chapter 11: Housing Element. In 2020, the City adopted the Tier 2 CalGreen Standards to meet higher levels of building energy efficiency through the adoption of Ordinance No. 2705 N.C.S.

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

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

[5] *California Energy Commission, Total System Electric Generation (2018) https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html, accessed December 23, 2019*
[6] *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*
[7] *California Energy Commission, Transportation Energy, https://www.energy.ca.gov/data-reports/energyalmanac/transportation-energy, accessed December 23, 2019*

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

Energy Impact Analysis:

4.6 (a) (Wasteful, Inefficient, Unnecessary Consumption of Energy) Less Than Significant Impact: Development of the proposed project would involve the use of energy during construction and at operation. Site preparation, grading, paving, and building construction would consume energy in the form of gasoline and diesel fuel through the operation of heavy off-road equipment, trucks, and worker trips. However, consumption of such resources would be temporary and would cease upon the completion of construction. As stated in Section 4.3 Air Quality, the City of Petaluma will impose BAAQMD best management practices (Measure AQ-1), which would minimize the inefficient, wasteful, and unnecessary consumption of energy during construction by limiting idling times and requiring that all construction equipment be maintained and properly tuned in accordance with manufacturer's specifications. As such, construction-related energy impacts would be less than significant.

Long-term operational energy use associated with the project includes electricity consumption associated with the 30 new residences (e.g., lighting, electronics, heating, air conditioning, and refrigeration), as well as energy consumption related to water usage, wastewater conveyance and treatment, solid waste disposal, and fuel consumption by vehicles associated with the project.

The City of Petaluma requires that all new development demonstrate compliance with CalGreen Tier 2 Building standards, which generally achieve energy efficiency approximately 30% beyond Title 24 as well as a construction waste reduction rate of 45%. CalGreen Tier 2 reduces energy consumption for heating, air conditioning, and ventilation and requires use of low-water irrigation systems, water efficient appliances and faucets, cool roofs, short- and long-term bicycle parking, electric vehicle charging spaces, outdoor energy performance lighting and other mandatory energy efficiency measures. Prior to issuance of a building permit, the proposed structures onsite will be required to demonstrate compliance with CalGreen Tier 2 standards.

Landscaping has been designed to minimize water demand, which achieves energy conservation by limited energy needs associated with water treatment, transport, and irrigation. Additionally, the project proposes to introduce a number or trees including native trees along the riparian corridor and street trees, which will enhance the tree canopy and provide shading which reduced energy costs for cooling.

While the long-term operation of the project would result in an increase in energy consumption compared to existing conditions, the project will incorporate design measures (related to electricity and water use) in compliance with CalGreen, the General Plan, and the Petaluma IZO to minimize energy consumption. Furthermore, the project is a residential subdivision that will support 30 single-family homes on an infill site near downtown Petaluma in proximity to recreation, schools, employment centers and shops, and public transit. 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 regarding a potential conflict with the 2017 Clean Air Plan. The project's land use and development intensity are consistent with that assumed by the General Plan for the project site. There are no other control measures of the 2017 CAP that apply to the project. Therefore, the project will not conflict with or obstruct implementation of the Bay Area 2017 Clean Air Plan.

In December 2007, the California Energy Commission prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies.[8] 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.

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

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 reduce energy consumption to less than 70% of Title 24 building standards.

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.

As a 30-unit 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.

Energy Mitigation Measures: None required.

4.7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Publication 42.	☐	☐	☐	☒
ii. Strong Seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Sources: Petaluma 2025 General Plan and EIR; Figure 3.7-5 Geologic Hazards; and GP DEIR Figure 3.7-4 Ground shaking Intensity.

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

Expansive soils present geological considerations within the City of Petaluma. The clay-rich soils in Petaluma typical of low-lying regions and valley floodplains tend to shrink or swell according to fluctuations in moisture content. Without proper geotechnical considerations, buildings, utilities and roads can be damaged by expansive soils due to soil properties that can cause cracking, settling and weakening of foundations. To reduce the potential risks posed by the presence of expansive soils, the City's Building Code requires that any construction site that is intended for human occupancy and suspected to contain expansive soils be investigated and mitigated accordingly.

The City's General Plan DEIR Figure 3.7-5 identifies the geologic hazard areas of the City and Figure 3.7-4 identifies the ground shaking intensity. The subject site is located in an area with very high liquefaction potential and severe ground shaking level (Mercalli Intensity VIII).

The primary concerns of the site are expansive soils, liquefication potential and shaking severity.

Geology and Soils Impact Discussion:

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

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

The proximity of the City's UGB to the Hayward Rodgers Creek Fault Zone places it within Zone VIII, "Severe" on the Mercalli Intensity Shaking Severity level. The project site is located approximately 5.0 miles from the Rodgers Creek Fault to the northeast, 14.6 miles from the San Andreas Fault to the southwest, 19 miles from the West Napa Fault to the east. According to General Plan EIR Figure 3.7-5, the risk of ground-shaking intensity is severe for the project location. As such, the project has the potential to expose people and structures to potentially substantial adverse effects resulting from strong seismic ground shaking including damage to buildings and infrastructure, as well as ground failures in loose alluvium and poorly compacted fill. Severe ground shaking poses a risk of loss of life or property.

Conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) provide optimal earthquake protection by mandating the type of subsurface materials, construction technique and foundation design. Compliance with standards established by the California Building Code and imposed by the City of Petaluma ensure that appropriate structural design and infrastructure improvements are able to withstand severe shaking. Therefore, potential adverse effects, including the risk of loss, injury, or death from seismic shaking will remain at less than significant levels.

4.7 (a.iii) (Ground Failure, Including Liquification) Less than Significant Impact with Mitigation: Seismically induced ground failure can occur during strong earthquakes, which could potentially expose people

and property to risks. Liquefaction is the rapid transformation of saturated, loosely packed, fine grained sediment to a fluid like state as a result of ground shaking. According to the General Plan EIR Figure 3.7-4, the potential for liquification is considered very high at the project site. Foundation design, soil treatment and construction standards required through the California Building Code effectively mitigate potential ground failure due to liquification. **Mitigation Measure GEO-1,** set forth below, requires that a soils investigation report be prepared for the project and all recommendations set forth therein be incorporated into the project design or as otherwise directed by the City Engineer. With the implementation of measure **GEO-1,** potential impacts associated with ground failure, including liquefaction will be reduced to less than significant levels.

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

4.7 (b) (Soil Erosion) Less than Significant Impact with Mitigation: Preparation for site grading will involve removal of vegetation and root systems, and excavation of any undocumented fill. Grading activities and ground disturbance on the project site 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 construction activities 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 Impact: The project site is generally flat and exhibits a minimal grade with no apparent soil migration within the project site boundaries. No signs of soil creep or lateral spreading are readily apparent on or near the project site. The project site located in an area that may be susceptible to lateral spreading given the project's proximity to the Petaluma River. However, the residential component of the project will occur well outside of the river bank and will not induce soil stress adjacent to the river that may lead to lateral spreading. Adherence to standard CBC stipulations are sufficient to ensure that impacts related to lateral spreading, subsidence, and collapse would remain at less than significant levels with the introduction of the proposed development. Therefore, the project would have less than significant impacts due to the presence of a geologic unit or soil that is unstable, or that would become unstable as a result of the project.

4.7 (d) (Expansive Soils) Less than Significant Impact with Mitigation: Expansive soils are a concern within the City's Urban Growth Boundary including the project site. In order to ensure that the presence of expansive soils does not result in significant impacts, recommendations set forth in the soils report and as directed by the City Engineer shall be implemented in accordance with **Mitigation Measure GEO-1**. Measures to correct expansive soils include but are not limited to pre-watering prior to the placement of foundations, removal of expansive material and replacement with non-expansive fill, and/or the use of soil stabilizers. With implementation of mitigation measure GEO-1, potential impacts due to the presence of expansive soils will be reduced to levels below significance.

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

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

Geology and Soils Mitigation Measures:

GEO-1. Prior to issuance of a grading permit, a project level soils and geological report shall be submitted to the City Engineer for review pursuant to the City of Petaluma's Ordinance #1576, Title 17, Chapter 17.31.180. The soils report shall detail the strength and characteristics of the soils onsite and provide conclusions and recommendations for grading procedures, foundations, and design criteria as appropriate.

As determined by the City Engineer and/or Chief Building Official, all applicable recommendations set forth in the in soils report prepared for the subject property, including, but not limited to grading, excavation, foundations systems, and compaction specifications shall be incorporated. Final grading plan, construction plans, and building plans shall demonstrate that recommendations set forth in the geotechnical reports 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: 2025 General Plan and EIR; Climate Action 2020 and Beyond Sonoma County Regional Climate Action Plan, July 2016; and 2017 BAAQMD CEQA Guidelines; and Riverbend Residential Development Air Quality & Greenhouse Gas Emissions Assessment, prepared by Illingworth & Rodkin, January 7, 2020.

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

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

To address GHG's at the State level, the California legislature passed the California Global Warming Solutions Act in 2006 (Assembly Bill 32), which requires that statewide GHG emissions be reduced to 1990 levels by 2020. Executive Order S-3-05 provides the California Environmental Protection Agency with the regulatory

authority to coordinate the State's effort to achieve GHG reduction targets. S-3-05 goes beyond AB 32 and calls for an 80 percent reduction below 1990 levels by 2050. Senate Bill 375 has also been adopted, which seeks to curb GHGs by reducing urban sprawl and vehicle miles traveled.

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

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

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

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

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

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

Greenhouse Gas Impact Analysis

4.8 (a) (Significant GHG Emissions) Less than Significant Impact: Greenhouse gas emissions associated

with the proposed project would result from short-term construction activities and ongoing operation. BAAQMD "screening criteria" provide a conservative estimate above which a project would be considered to have a potentially significant impact to air quality. Projects that are below the screening criteria levels are reasonably expected to result in less than significant impacts to greenhouse gases since pollutant emissions would be minimal. When projects fall below the screening criteria levels, a quantitative analysis of the project's air quality emissions is not required.

As presented in Table 2 above (Chapter 4.3 Air Quality), the GHG screening level criteria for single-family residential development is 56 dwelling units. The project proposes the development of 30 single-family units, which is well below the GHG screening size. As such, it can be determined that the proposed project would have less than significant impacts due to GHG emissions.

4.8 (b) (GHG Plan Conflict) Less than Significant Impact: The proposed project is consistent with applicable GHG regulations and General Plan policies. The project is required to comply with the CalGreen Building Tier 2 standards and 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. Additionally, the project includes water efficient landscaping and complies with the maximum applied water allowance and the City's water conservation regulations. As proposed, the project is consistent with relevant General Plan policies and GHG regulations. Therefore, potential impacts due to the generation and emission of greenhouse gases would be less than significant.

Greenhouse Gas Mitigation Measures: None required.

4.9. HAZARDS/HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	☐	☐	☐	☒

Sources: Petaluma 2025 General Plan and EIR; GeoTracker report for 529 Madison St, Petaluma, CA State Water Resources Control Board, accessed November 2019; EnviroStor report for 529 Madison St, Petaluma, CA Department of Toxic Substances Control, accessed November 2019; Cultural Resources Letter Report for the Riverbend Project, City of Petaluma, Dudek, July 2019; Stormwater Control Plan prepared by Steven J. Lafranchi & Associates, Inc, March 19, 2019.

Hazards/Hazardous Materials Setting: Regulations governing the use, management, handling, transportation and disposal of hazardous materials and waste are administered by federal, state and local governmental agencies. Federal regulations governing hazardous materials and waste include the Resource Conservation, and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Amendments and Re-authorization Act of 1986 (SARA).

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

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

Based up on available environmental records and historical aerial surveys, the project site shows no indication of past exposure to hazardous materials. Historical aerial photos of the project site dating back to 1952 show no structures or other development, although there is evidence of grading and surface disturbance. A review of the project site's reporting from state regulatory databases identified no known occurrences of hazardous waste clean-up sites from the GeoTracker database or for land uses impacting water quality from the EnviroStor database. Given the project's location on the boundary of Petaluma's industrial riverfront area, there are reported clean-up sites in the vicinity of the project site. However, no reported hazardous materials or past uses leading to significant soils or groundwater water impacts were identified.

Hazards/Hazardous Materials Impact Analysis:

4.9 (a) (Routine Transport) Less than Significant Impact: As a residential use the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. There are no elements of the residential project that require the routine transport, use of disposal of hazardous materials. Activities onsite are limited to residential uses which do not typically require the use of hazardous materials nor generate hazardous waste. As a residential development, common household cleaners, solvents, and other products may be routinely used, which do not present a significant hazard to people or the environment. The project will introduce landscaping, which require maintenance and may involve application and storage of regulated chemicals, fuels, and related products. Potentially hazardous materials such as common household products, 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 a 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: 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. All potentially hazardous materials present onsite are required to be handled, stored and disposed of in compliance with all existing federal, state and local safety regulations. Once construction is complete there will not be any ongoing use or generation of hazardous materials onsite, except as may be necessary for ongoing maintenance and onsite landscaping. According to the Storm Water Control Plan, weed control for the landscaped areas will utilize corn gluten, white vinegar, vinegar-based products, or non-selective natural herbicides to minimize the application of hazardous chemicals on plants as part to the stormwater system. Therefore, potential impacts due to upset or accidental release of hazardous materials or hazardous waste will be less than significant.

4.9 (c) (Emit or Handle Hazardous Materials within ¼ Mile of School) Less than Significant Impact: The project site is located within a quarter mile (0.21 miles) from the existing McKinley Elementary School. Adherence to existing federal, state and local regulations will ensure that all potentially hazardous materials onsite during construction and at operation are properly labeled, transported and stored. Established policies and programs set forth by the EPA, DTSC, CAL/OSHA and other regulatory agencies provide that the presence of potential hazardous materials occurs in the safest possible manner by reducing the risk of accident release and ensuring that a response plan is in place.

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. At operation there is no expectation that the proposed residential project will emit, store, or otherwise handle hazardous materials or hazardous waste. Therefore, potential impacts due to the proximity of the school would be less than significant.

4.9 (d) (Government Code §65962.5 Site) No Impact: There are no Cortese sites located within the City of Petaluma, including that of the project site. The project will not create a significant hazard to the public or the environment due to an identified Cortese site. Therefore, the project would have no impact associated with a hazardous materials site.

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

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

4.9 (g) (Wildland Fire) No Impact: Wildland fires are of concern particularly in expansive areas of native vegetation of brush, woodland, grassland. The project site is located within central Petaluma, surrounded by roadways and developed land uses. Therefore, there are no impacts related to the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires.

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; Petaluma River Access and Enhancement Plan, 1996; Sonoma County Water Agency Stream maintenance program Zone 2A; Federal Emergency Management Agency's Flood Insurance Rate Map, Map Number 06097C0982G, October 2, 2015; Preliminary Stormwater Control Plan for UGI Riverbend, prepared by Steven J. Lafranchi & Associates, April 27, 2020; Preliminary Drainage Analysis prepared by Steven J. Lafranchi & Associates, March 2019; Biological Resources Assessment, prepared by Monk & Associates, March 15, 2019. Groundwater Basin Boundary Assessment Tool, CA Dept. of Water Resources; Petaluma Valley Groundwater Sustainability Agency; Petaluma Historical Habitats, Petaluma River Historical Ecology, SF Estuary Institute, 2018; and Recharge rate, Basin Characterization Model, US Geological Survey, 2017.

Hydrology and Water Quality Setting: The Petaluma River is the primary watercourse within the City of Petaluma and the Petaluma watershed which encompasses an area of approximately 46 square miles. This watershed's primary surface feature is the Petaluma River, which drains in a southeast direction through tidal marshes into San Pablo Bay. Historically the valley basin was comprised of marshlands and wet meadows, the latter accounting for nearly four fifths of Petaluma's modern city limits. The Petaluma River is a tidally influenced

river used for recreational boating and water sports as well as long standing river dependent industrial operations. Lands near the Petaluma River and its tributaries are subject to periodic inundation during storm events. Federal and state agencies such as U.S. Army Corps of Engineers and Regional Water Quality Control Board are responsible for protecting surface water quality. The Federal Emergency Management Agency (FEMA) designates land that is subject to flooding in support of the National Flood Insurance Program. Sonoma Water (formerly Sonoma County Water Agency) and City of Petaluma manage waterways and regulate runoff generated from new development.

The project is located along the tidally influenced Petaluma River, upstream from the Lakeville Street Bridge and downstream from Payran Street Bridge. The property on which the project site is located encompasses the Petaluma River Floodway at its westernmost edge, and the eastern bank of the Petaluma River. At the top of bank is the existing Lynch Creek Trail. The project proposes improvements to the existing Lynch Creek Trail extending through the project site and south to the existing multi-use ramp at the Lakeville Street bridge crossing. At the project site, the segment of the Petaluma River is an engineered channel with banks stabilized by rip rap and vegetation limited to a narrow linear riparian corridor.

The Petaluma River and Access and Enhancement Plan (RAEP) and the General Plan contain policies to guide development along the river and to create a well integrated network of public trails with river front access. The project site is located within the Payran Residential Segment of the RAEP, and the linear improvements along the existing Lynch Creek Trail extending south of the project site are located within the Lakeville Industrial Segment. Within the General Plan, Biology and Natural Resources Policy 4-P-1 describes the management strategy for river-oriented development and river protection.

Flooding

Sonoma Water manages flood control facilities throughout the County, including flood Zone 2A, within which the entire City of Petaluma is located. Sonoma Water is responsible for structural repairs to culverts and spillways, grading and managing channels, and debris removal to maintain hydraulic capacity of all waterways within Zone 2A. Portions of the Petaluma River are managed by Sonoma Water in their role as the regional flood control facility. The City of Petaluma shares maintenance responsibilities with Sonoma Water on regional facilities and is responsible for maintaining reaches of the Petaluma River and its tributaries that are under local ownership. The segment of the Petaluma River within the study area for the subject project is identified as the channel ownership and creek maintenance responsibility of the City of Petaluma.

The Federal Emergency Management Agency's (FEMA's) flood hazard mapping program provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, FEMA defines Floodway (Zone AE), 100-year floodplain (Zone AE, A99), and 500-year floodplain (Zone X) boundaries that are shown on the Flood Insurance Rate Maps (FIRMs).

Petaluma Implementing Zoning Ordinance Chapter 6 prescribes allowed land uses and development in the Flood Plain Combining (FP-C) District (100-year flood plain, base flood, or 1% chance flood) as described in IZO Section 6.040 and the Floodway District (FW) as described in IZO Section 6.050. Implementing Zoning Ordinance Section 6.050 stipulates that no encroachments are permitted within the floodway since the floodway is an extremely hazardous area due to erosion potential and the velocity of flood waters which carry debris and potential projectiles. Such encroachments include fill, new construction, intensification of an existing use, a change to a more intensive use, substantial improvements, and other development, except as permitted or conditional land uses in the FW District.

The Flood Plain Combining District implements specific development requirements to withstand a 100-year flood event. As shown in **Figure 5** using FIRM community panel map number 06097C0982G (effective date October 2, 2015), the westernmost edge of the property on which the project site is located overlaps with the Petaluma River Floodway (Zone AE). No development or other improvements are proposed within the regulated floodway. The non-regulated 500-year floodplain (0.2% chance flood; Zone X) extends onto a portion of the project site near the western and the eastern edges.

Stormwater Runoff

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 including grading, grubbing, and other site disturbance. Construction activities on more than one acre are subject to NPDES permitting requirements including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The NPDES General Permit requirements also address post-construction conditions resulting from development including, but not limited to Low Impact Development (LID) requirements. Under LID requirements, new development is required to mimic pre-developed conditions, protect water quality, and retain runoff from new impervious surfaces introduced onsite.

Chapter 15.80 of the City's Municipal Code regulates stormwater discharges. The City of Petaluma collects Storm Drainage Impact Fees as a means of mitigating storm drainage impacts occurring as a result of development. The criteria provide for either the payment of fees or the construction of on- or off-site detention areas, based upon the type of project and amount of runoff generated, as calculated for a 100-year storm. Fees collected are used by the City for the acquisition, expansion, and development of storm drainage improvements. The project will be subject to the storm drainage impact fee.

As the project site is greater than one acre the requirements for a SWPPP is triggered. A Preliminary Stormwater Control Plan for the project was prepared in accordance with the Bay Area Stormwater Management Agencies Association (BASMAA) criteria. The Preliminary Stormwater Control Plan (SWCP) identifies LID design strategies such as the use of bioretention facilities and permeable pavement. The Riverbend project proposes a comprehensive system of bio-retention basins designed to collect storm water run-off from impervious surfaces onsite and direct flows to existing storm water infrastructure located in Edith Street and Madison Street. A Preliminary Drainage Analysis provides modeled design information to assess capacity demands of bio-retention basins to retain stormwater from a 10-year storm event. The SWCP collects water from interior lots into drainage swales and empties into bioretention basins located between the sidewalk and the gutter. Runoff from homes along Edith and Madison streets will have under-sidewalk drains connecting the swale into the bioretention basin, while homes along the new private street will contain under-sidewalk drains emptying into the gutter and eventually into bioretention basins alongside the private street. From the bio-retention basins, the stormwater is directed into existing storm drain system at a 21-inch diameter drain pipe on Madison Street and an 18-inch drain pipe on Edith Street which will connect to a 30-inch pipe leading to the Vallejo Street pump station. Annual inspection of the stormwater treatment system onsite is required to ensure its proper operation, as described in the Stormwater Control Plan.

According to the SWCP, there is an existing storm drain in the southwestern corner of the project site. The existing storm drain collects storm water runoff from the western portion of the property and runs 27 feet along a 12-inch diameter culvert to an outfall on the bank of the Petaluma river. The collection area of this storm drain will be reduced as the proposed drainage improvements will discharge flows to the proposed storm drain pipe system. No additional stormwater runoff from new impervious areas will be directed to the existing culvert. The existing culvert will continue to provide drainage to a segment of the existing Lynch Creek trail including the proposed public open space.

Procedures from minimizing impacts to water quality from stormwater runoff from exposed construction sites are described in Chapter 17.31 of the Municipal Code, the grading and erosion control requirements.

Groundwater

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

under public review in 2020 to gather feedback on six sustainability indicators that measure conditions and activities potentially leading to unsustainable groundwater use. The indicators include lowering groundwater levels, sea water intrusion, reduction of storage, land subsidence, degraded groundwater quality, and surface water depletion. The PVGSA is scheduled to adopt the GSP in 2022 to begin implementation of projects that demonstrate improvements to groundwater sustainability by 2042 with the goal of maintaining sustainability through 2072.

Hydrology and Water Quality Impact Analysis:

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

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

At operation, runoff from the proposed development will increase relative to existing conditions. The increased runoff of pollutants deposited upon impervious surfaces may result in water quality impacts if not properly controlled. The SWCP identifies installation of bio-retention features that collect stormwater in drainage swales and filter runoff prior to discharging water into the existing stormwater drain systems. Pursuant to the Stormwater Control Plan no stormwater runoff from the project site will be discharged directly into the Petaluma River of the existing storm drain system. Rather, in keeping with LID standards, all runoff will filter through bioretention areas prior to entering the storm drain system which will minimize pollutant loads. Therefore, the project's potential to violate water quality or waste discharge standards would be less than significant.

4.10 (b) (Groundwater Supply and Recharge) Less than Significant Impact: The City has adequate water supply resources to accommodate development of the proposed 30 single-family dwelling units without depleting, degrading or altering groundwater supplies or interfering substantially with groundwater recharge. According to the USGS Basic Characterization Model, the project area retains low soil permeability and recharge characteristics. As such, development of the proposed project will not significantly change the nature of surface water percolation into the Petaluma Valley Groundwater Basin.

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

4.10 (ci-civ). (Drainage Pattern, Runoff and Storm Drain Capacity) Less than Significant Impact: The proposed project will not substantially alter the course of a stream or river, or otherwise substantially alter the drainage pattern relative predevelopment conditions. Currently stormwater runoff from the project site sheet flows towards the Petaluma River in the western portion of the site, towards Edith Street in the central portion of the site, and towards Madison Street in the eastern portion of the site.

The project's Preliminary Stormwater Control Plan (SWCP) addresses the post-construction runoff through the introduction of new landscaping, drainage swales, and bio-retention areas. Pollutants will be removed, and runoff reduced through implementing Post-Construction Low Impact Design (LID) measures. 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. According the to the Stormwater Control Plan, roofs and new pavement will introduce

approximately 76,106 square feet of impervious surfaces to the project site. The bio-retention basins provide for filtration and pre-treatment prior to discharging through the new onsite storm drain pipeline in the private roadway to existing storm drain infrastructure in Madison and Edith Street. Runoff within the 50-foot setback of the Petaluma River will flow back to the river consistent with the historic drainage pattern. With implementation of the SWCP, the introduction of new impervious surfaces onsite would not substantially increase the rate or amount of surface runoff or adversely impact the storm drain capacity. Therefore, impacts from the proposed residential development will be less than significant.

The project component of public open space and the Lynch Creek Trail improvement extension will not substantially alter the existing stormwater runoff and infiltration capacity. Under current conditions, the hard pack soil of the trail exhibits poor drainage following storm events leading to water pooling and sodden soil conditions. The project proposes to replace the existing hard packed dirt trail from Edith Street to Lakeville Street with a concrete multi-use trail. Replacing the existing hard-packed soil trail with impermeable concrete will reduce sediment runoff and will not significantly alter the existing drainage pattern. Therefore, impacts to drainage and runoff from the proposed Lynch Cree Train improvement would be less than significant.

4.10 (d). (Flood Hazards, Seiche, Tsunami, Mudflow) Less than Significant Impact: As described above the property's western most boundary extends to the channel of the Petaluma River and overlaps with the City of Petaluma's Floodway District. However, no development or other improvements will occur within the designated Floodway. The existing Lynch Creek Trail and expanded public open space adjacent to the Petaluma River provides an additional buffer between the proposed development and the river. Additionally, as described in the SWCP, the LID system and storm drain infrastructure is sized to accommodate runoff without causing flooding on- or offsite. All improvements proposed as part of the project will occur outside of regulated flood hazard areas. The project site is not susceptible to seiche, tsunami or mudflows due to site topography and elevation. Therefore, impacts will be less than significant.

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

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

Hydrology and Water Quality Mitigation Measures: None Required

4.11. LAND USE AND PLANNING

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

Sources: City of Petaluma General Plan and EIR; City of Petaluma Implementing Zoning Ordinance; Proposed

Riverbend PUD; Air Quality & Greenhouse Gas Emissions Assessment, prepared by Illingworth & Rodkin, January 7, 2020; Environmental Noise Assessment prepared by Illingworth & Rodkin, April 5, 2019; and Petaluma Bicycle and Pedestrian Plan: An Appendix to the General Plan 2025, May 2008.

Land Use Setting: The project site is located at 529 Madison Street in central Petaluma and within the Petaluma General Plan's Payran-McKinley Planning Subarea, west of Highway 101 and north of Lakeville Street. The project site is bordered by Madison Street to the east, Edith Street to the north, the Clover Stornetta Dairy Distribution Facility to the south and the Petaluma River and Lynch Creek Trail to the west.

The project site has a General Plan land use designation of Diverse Low Density Residential (6.1 to 12.0 dwelling units/acre) and the western most portion of the property extends into the channel of the Petaluma River, and overlaps with the Floodway Boundary (**Figure 3: General Plan Land Use**). No development or other improvements are proposed within the Floodway. The project site is zoned R3 (Residential 3). A zoning map amendment is requested to rezone the property from R3 to Planned Unit District (PUD) (**Figure 4: Existing and Proposed Zoning)**. Chapter 19 of the City's zoning code establishes criteria for Planned Unit District's. The purpose of the PUD is to allow for unusual density or design characteristics, which would not normally be permitted to govern the residential development. In the case of the Riverbend Project a PUD is being pursued in order to cluster development away from the Petaluma River and provide for enhancement to the Lynch Creek Trail with an expanded adjoining public open space area, while maintaining the density that would otherwise be permitted. The project is also requesting a vesting tentative map for the subdivision of the property into 30 residential lots and a remainder parcel and Site Plan and Architectural Review. Chapters 19 (Planned Unit District), 21 (Performance Standards) and 24 (Site Plan and Architectural Review) of the IZO are applicable to the proposed project.

The General Plan Figure 5-2 Proposed and Existing Bicycle Facilities map shows bicycle facilities on three sides the project site (north, east and west). Lynch Creek Trail, a multi-use trail facility, is located within the western portion of the project site and runs along the eastern edge of the Petaluma River north of Lakeville Street to Burlington Drive. This portion of the Lynch Creek Trail is currently a hard-packed dirt path with an average width of approximately eight to 10 feet. A proposed Class III signed bicycle route is identified along Madison Street to the east of the site. Although, Figure 5-2 of the General Plan indicates that an existing Class I off-street multi-use trail is present along the site frontage to Edith Street, existing improvements are limited to an approximately 6-foot wide meandering concrete sidewalk.

General Plan Policy 4-P-1 provides for protection and enhancement of the Petaluma River including providing for public access, preservation of existing trees along the banks of the River, and expansion of landscaping. It further requires design review for projects with frontage along the river. Policy 4-P-1-D calls for development to be set back 50 feet from the top of the bank of the Petaluma River and allows for exception to this setback in cases where greenway enhancements are proposed, such as a public trail.

The Petaluma River Access and Enhancement Plan (RAEP) guides river-oriented development and conservation along the Petaluma River. The project site is in the southeastern portion of the RAEP's Payran Residential Segment. The RAEP's River Greenway and Access Plan for this area includes a new multi-use trail bridge extending from Edith Street across the river to a General Plan proposed park at Cedar Grove, and to the south of the site is the Lakeville Industrial Segment. The Payran Residential Segment includes policies and programs (RAEP 3.4.4) calling for trail improvements and park development, natural habitat restoration and protection, river-oriented development, and floodway protection measures. The City General Plan requires specific actions be consistent with the RAEP and adopted the Plan Conformance Policy. The policy states "No subdivision, use permit, design review application, or other entitlement for land use, and no public improvement shall be authorized for construction in the designated river corridor if that proposed action is not in substantial compliance with the Petaluma River Access and Enhancement Plan."

The project site shares its southern property line with the existing Clover Stornetta facility, which is located immediately south of the project site. The Clover Stornetta facility processes dairy products from on-site operations and distributes products through a fleet of diesel trucks and trailers. This legally conforming industrial operation generates truck trips that contribute to the ambient noise and air quality environment. The proposed project would introduce residences adjacent to this existing industrial operation, which could potentially result in land use conflicts.

The city has developed guiding policies to minimize potential land use conflicts. To address air quality impacts for introduced sensitive receptors, Petaluma's General Plan policy 4-P-17 recognizes that new residential projects can include buffer zones that separate new sensitive receptors from potential sources of odors, agricultural dust, and toxic air contaminants. When placing new sensitive receptors, such as homes, in areas subject to noise levels greater than 65 dB CNEL, General Plan policy 10-P-3 requires that a professional acoustical engineer perform a technical noise analysis and design mitigation measures to protect public health and welfare from noise-related land use conflicts. The project's potential to introduce land use conflicts is discussed below under Section 4.11(b).

Land Use Impact Analysis:

4.11 (a) (Divide an Established Community) No Impact: The project consists of infill development on an undeveloped parcel within an established residential neighborhood. There are no aspects of the project that would introduce a physical barrier or otherwise divide an established community. There will be no impacts under this criterion.

4.11 (b) (Land Use Plan, Policy, Regulation Conflict) Less than Significant Impact with Mitigation: With approval of the proposed rezoning from R3 to PUD, the vesting tentative map subdividing the property into 30 single family lots with a remainder parcel, and the Site Plan and Architectural Review, the project will be generally consistent with the General Plan, Zoning and land use regulations established by the City of Petaluma.

The PUD development standards allow for an unusual density, building intensity, or design characteristics that are similar but not conforming to the existing zoning district, and allow the project to improve the physical environment more than would be possible under a single zoning district. Given that the project will dedicate 0.71 acres in the western portion of the site including the Lynch Creek Trail and associated enhancements to the City, which effectively reduces the project's potential development footprint in exchange for public space, and the required 50-foot setback from the top of the bank of the Petaluma River, the proposed clustering of the 30 single-family residences as proposed on the balance of the property (2.65 acres) is consistent with the PUD development findings set forth in the IZO Chapter 19 Planned Unit District. The PUD development standards also establish height limits, setbacks, parking, open space, landscaping and screening requirements that are respectful of the existing environment including built and natural features. The PUD would accommodate a residential density of 11.32 units/acres, which is consistent with the R3 Zoning District that implements the General Plan Land Use Designation of Diverse Low Density Residential (6.1-12.0 dwelling units/acre). Therefore, the proposed PUD does not present a conflict that would result in an environmental impact.

The City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies an existing Class I multi-use trail facility along the project's frontage on Edith Street between Madison Street and Lynch Creek Trail. However, as described above, this facility is limited to an existing 6-foot wide concrete sidewalk and no Class I multi-use trail currently exists at this location. The project applicant requested that the Pedestrian and Bicycle Advisory Committee (PBAC) review a possible re-classification from the Class I bicycle facility to a Class III bicycle facility. PBAC recommended that a Class III bicycle facility would be appropriate based on the circumstances on this stretch of Edith Street (dead-end street, short street segment, low traffic, low vehicular/traffic collision likelihood), and requested that the project contain a condition of approval stipulating the project will construct improvements along Edith Street consistent with a Class III facility. This provision has been added as a project condition of approval. Although a Class III bicycle facility differs from the identified Class 1 off-street facility in the Bicycle and Pedestrian Plan, the general intent of the Plan will be achieved through this alternate compliance in that public bicycle access to Lynch Creek Trail will be maintained. Therefore, the project will be consistent with the intent and objectives of the City's Bicycle and Pedestrian Plan and does not present a conflict that would result in an environmental impact.

The project is located adjacent to the Petaluma River. The project site's western edge overlaps with the regulated Floodway that restricts development in the riverway. As proposed, there is no development within the Floodway nor within the 100-year floodplain. Therefore, there are no land use conflicts due to a flooding hazard.

The project implements the policies and programs of the RAEP Payran Residential Segment and related General Plan policies. The project includes improvements to the Lynch Creek Trail and development of a public

open space area with native plantings within the 50-foot setback from the top of bank. The project will dedicate the remainder parcel to the City thereby providing approximately 0.71-acres of public open space for active and passive recreation opportunities including improvements to the Lynch Creek Trail, new walking paths, bench seating, a picnic area and a metal swing bench. Improvements to Lynch Creek Trail will upgrade the existing Class I multi-use dirt path to a 10-foot wide concrete path between Edith Street and Lakeville Street. Other improvements include light bollards, a new drinking fountain, and bike repair facilities at the access point to Lynch Creek Trail from Edith Street, implementing General Plan Policy 5-P-31 to provide support facilities for pedestrians and bicyclists. The public open space area includes planting drought tolerant and/or native vegetation as well as approximately 32 California native trees (Western Red Buds and Coast live oaks).

The proposed development is generally oriented to the river by introducing public open space between the subdivision and the Lynch Creek Trail and improves access to the River by introducing new access points from the proposed private street and the terminus of Edith Street. The new access points are provided approximately every 150 feet along the project's river frontage, exceeding General Plan Policy 5-P-26 requiring new riverfront development to provide access points a minimum of 500 feet along the river. The open space area provides a buffer from the floodplain area, consistent with General Plan Policy 2-P-39. Collectively, these improvements implement the RAEP polices for the Payran Residential Segment.

The project implements Petaluma's General Plan and Zoning designations for low density residential development at the site within the prescribed density limits. The residential use is generally compatible with surrounding residential uses to the north and east of the project site. The project complies with the policies from the Petaluma REAP and the associated policies in the General Plan. Therefore, there are no land use conflicts with the REAP.

Land Use Conflicts

The Clover Stornetta facility is an existing legal operation that influences the ambient condition in the vicinity of the project site. The proposed project will introduce new sensitive receptors immediately adjacent to the Clover Stornetta facility and new residents will be exposed to potential noise, odors, and air emissions generated by ongoing operation of the existing Clover Stornetta facility.

As described above under Air Quality, the existing Clover Stornetta facility generates TAC emissions from the operation of diesel trucks. New residents introduced onsite would be exposed to elevated ambient cancer risk (20.1 per million) in excess of established thresholds (10 per million). Although these TAC emissions are not caused by the project, the project would introduce new sensitive receptors to any area with elevated emission levels, which would result in a potential conflict with Petaluma General Plan policy 4-P-17. This policy calls for a buffer to be established between new residential uses and uses that potentially generate odors and TAC.

As discussed above in the Section 4.3 Air Quality, a minimum buffer of 100 feet from the Clover Stornetta property line would be necessary to avoid potential conflicts due to air quality emissions generated by the Clover facility. Pursuant to this policy a buffer zone was considered but determined to be infeasible without substantially compromising the site's ability to support residential development, in part due to the narrow width of the subject property. In lieu of a buffer, alternate strategies were considered. The Air Quality Report recommends that all new homes built along the shared boundary with Clover Stornetta, within 100 feet of the site's southern boundary, be designed to incorporate high-efficiency particulate filtration systems in heating, ventilation, and air conditioning (HVAC) systems. As such, the project is subject to **Mitigation Measure LU-1** which requires that all homes within 100 feet of the shared boundary with Clover Stornetta be developed with filtration devices of MERV13 or higher rating and be properly maintained to ensure the MERV13 air filter achieves the projected 70 to 80-percent reduction in cancer risk. With ongoing maintenance and installation of MERV13 filtration standard or higher, air quality concentrations of TAC and particulate matter and corresponding cancer risks would be reduced to between 6 and 9.7 per one million. With implementation of the residential air filtration system, set forth in mitigation measure LU-1, new residences introduced onsite would not be exposed to excessive cancer risk and the potential land use conflicts with Policy 4-P-17 would be reduced to less-than-significant levels. (See also Section 4.3 Air Quality)

As discussed below in the Section 4.12 Noise, the project would introduce a potential noise compatibility conflict due to noise emanating from the adjacent Clover Stornetta facility. The project will introduce new sensitive noise

receptors into an environment with elevated noise levels (67 dBA), which are generally attributed to the existing operations of the Clover Stornetta facility. As such, the project introduces a potential conflict with Petaluma's General Plan Policy 10-P-3 and Community Noise Exposure limits. To ensure new residents are not exposed to noise levels exceeding the Community Noise Exposure levels, Mitigation Measure LU-2 and LU-3 shall be implemented. **Mitigation Measure LU-2** provides for the installation of an 8-foot-tall noise barrier along the southern property line to achieve the exterior residential standard of 65 dBA or below in the rear yards of new lots. **Mitigation Measure LU-3** provides for interior noise reductions by requiring that all new residents within 100 feet of the southern property boundary to be equipped with forced air mechanical ventilation systems that allow fresh air to be filtered into the house while windows remain closed to achieve adequate noise suppression and for exterior wall assemblies including doors and windows facing the Clover Stornetta facility to meet a sound transmission class (STC) between 28 and 32 to ensure interior noise levels are at or below 45 dBA interior CNEL standard. With implementation of the noise barrier, forced air ventilation, and wall, door and sound rated windows within 100 feet of the property line, new residences introduced onsite would not be exposed to excessive noise levels and potential land use conflicts would be reduced to less-than-significant levels. (See also Section 4.13 Noise)

Land Use Mitigation Measures:

LU-1: High-efficiency particulate filtration systems shall be installed in residential heating, ventilation and air-conditioning (HVAC) systems for residences within 100 feet of the Clover Stornetta facility. The project shall implement the following measures to minimize long-term annual Diesel Particulate Matter exposure for incoming residential occupants:

1. Install forced air mechanical ventilation devices in new residences. Air filtration devices shall be rated MERV13 or higher for residential portions within 100-feet of the site. To ensure adequate health protection to sensitive receptors (i.e., residents), this mechanical ventilation system will circulate fresh filtered air into the dwelling units.
2. In order to effectively implement this measure, an ongoing maintenance plan for the buildings' HVAC air filtration system shall be required.
3. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

LU-2: To reduce exterior noise levels at or below 65 dBA in the rear yards along the project's shared property line with Clover Stornetta facility, a noise barrier with a minimum height of eight feet above the finish grade level shall be designed and installed pursuant to the recommendations presented in the Environmental Noise Assessment. The noise barrier shall be built primarily without gaps except at the base of the structure to allow drainage but shall not be composed of more than 0.5% of the total area. The noise barrier shall be constructed with a minimum surface weight of 3.0 lbs. per square foot to be verified by a qualified acoustical engineer. The noise barrier shall be maintained on an ongoing basis to ensure that it continues to meet its design performance standard. One possible design of the noise barrier would be a double-sided wood fence with butted vertical fence boards on each side with a continuous layer of ½ inch plywood. Other acceptable materials to achieve sufficient noise reduction may include masonry block, or pre-cast concrete panels.

LU-3: To reduce interior noise levels to at or below 45 dBA, two story residences on lots 20 through 27 and lot 29 (along the shared property line with the Clover Stornetta facility) shall be designed as follows to ensure that the noise control treatments achieve the required noise reduction standards consistent with the Petaluma General Plan:

1. Equipped with some form of forced air mechanical ventilation system, satisfactory to the City's building official.
2. As necessary provide sound-rated windows and doors to maintain interior noise levels at or below 45 dBA CNEL. The degree of sound rating will vary depending on the final design of the building (relative

window area to wall area) and the design of the exterior wall assemblies. Based on the exterior noise level and typical residential construction, second-floor windows and doors facing or with a view of the Clover Stornetta facility may require sound transmission class (STC) rating between 28 and 32.

3. Specific determination of exterior wall assembles and window/door SCT rating shall be conducted on a unit by unit basis during the project design. Results of the determination shall be prepared by a qualified acoustical engineer and shall be submitted to the City along with building plans and approved prior to issuance of a building permit.

4.12. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Sources: Petaluma 2025 General Plan and EIR.

Mineral Resources Impact Discussion

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

Mineral Resources Mitigation Measures: None required.

4.13. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to	☐	☐	☐	☒

excessive noise levels?

Sources: 2025 General Plan and EIR; IZO 21.040; Environmental Noise Assessment prepared by Illingworth & Rodkin, April 5, 2019; Traffic Study for the Riverbend Project prepared by W-Trans, December 23, 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 average A-weighted noise levels measured across a given study period is denoted as the Equivalent Noise Level (L_{eq}). The Community Noise Exposure Level (CNEL) is a weighted average of noise level over time which calculates the equivalent noise level for a continuous 24-hour period while imposing a five-decibel penalty in the evening (7pm-10pm) and 10-decibel penalty during nighttime and morning hours (10pm-7am).

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

The 2025 General Plan provides policies to protect the health and welfare of the community from undesirable noise levels. Figure 10-2 of the General Plan shows the Land Use Compatibility Standards for various land uses and provides the relative acceptability level. Single-family residential land uses are considered normally acceptable in a noise environment up to 60 dB (Community Noise Equivalent Level or CNEL). The Noise Contours Figure 10-1 of the General Plan indicates that noise levels at the site are projected to be 60 dB CNEL at General Plan build out due to Lakeville Street and East Washington transportation noise.

An Environmental Noise Assessment was prepared for the Riverbend project by Illingworth and Rodkin, dated April 5, 2019 (**Appendix E**). The Noise Assessment analyzes the distribution of sensitive noise receptors, noise levels generated by proposed construction activities, on-site operations, and project-generated traffic on area roadways. Existing noise receptors occur in the adjacent residential neighborhoods to the north and east, with the closest noise receptor approximately 70 to 90 feet from where construction would occur.

The Noise Assessment also characterizes the existing ambient noise environment onsite and in the vicinity, which is influenced by the Clover Stornetta facility operations and associated traffic and by SMART and freight operations along the rail corridor. Noise measurements were collected on March 11th and 13th, 2019 using a Larson Davis Laboratories (LDL) Type 1 Model 820 Sound Level Meter fitted with a 0.5-inch pre-polarized condenser microphone and widescreen. The long-term measurements were collected along the shared property line with Clover Stornetta (LT-1) and at the northwest corner of the Madison/Edith Street intersection (LT-2). Noise survey results indicate that existing noise levels are primarily influenced by Clover Stornetta trucks' activities and operations. Approximately half of the semi-trucks used at the adjacent Clover facility are equipped with diesel-powered truck refrigeration units (TRU) on the trailers to provide refrigeration for trailer's perishable contents. The TRUs continue to operate and generate noise even after the truck is parked and turned off. The ambient noise levels on the project site, range from 60 dBA CNEL near the northernmost property line and up to 68 dBA CNEL at the southern property line, adjacent to the Clover Stornetta facility.

Noise Impact Analysis:

4.13 (a) (Noise Standards) Less than Significant Impact with Mitigation: As a residential use the proposed project will not introduce new sources of noise that increase the ambient noise environment to levels that exceed established land use compatibility standards. The project would introduce 30 new single-family residential units in an area adjacent to existing residential uses, the Petaluma River, and the Clover Stornetta facility. Noise generated by the proposed project will occur on a temporary basis during construction and ongoing at operation

from typical residential activities such as talking, vehicle use, building and landscaping maintenance, barking dogs and children at play. Given that the existing neighborhood is primarily residential in nature, the introduction and occupation of new homes will be compatible with existing residences, and therefore will result in less than significant impacts to the noise environment.

New vehicles trips will be introduced by the 30-unit residential project to the surrounding roadways. According to the Environmental Noise Assessment, a significant impact on noise levels would occur from a project generating an additional 4 dBA of roadway noise which correlates to a doubling of current roadway volume. Given the size of the proposed project and the current volume of traffic on areas roadways, there is no possibility that the project would double the trip volumes. Therefore, the project will have less than significant impacts due to project generated traffic noise.

During temporary construction activities, the Environmental Noise Assessment predicts noise levels are expected to be in the range of 80 to 90 dBA at distances of 50 feet from noise generating construction activities. Construction noises include grubbing vegetation, grading and site improvements, installing utilities, erecting buildings, paving, and landscaping. The nearest sensitive receptors to the project site are existing residents on Edith Street approximately 90 feet from nearest construction activities. Existing residents on Edith Street would be exposed to temporary construction noise ranging from 76 to 83 dBA. Although nearby residents will be exposed to elevated noise levels from construction, exposure is intermittent and temporarily and will cease once construction is complete. 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. With implementation of measure NOI-1, noise generated from the project's construction activities are not expected to exceed 60 dBA L_{eq} and the ambient noise environment by five dBA L_{eq} for a period greater than one year. Therefore, the project will not exceed noise standards and impacts from temporary construction activities will be reduced to less than significant levels.

Land Use Compatibility with Existing Noise Impacts

As described above under Section 4.11 Land Use, the project would introduce new sensitive receptors (residents) to an area with elevated noise levels due to existing operational activities at the adjacent Clover Stornetta facility located at the project site's southern boundary. Exposure of residents introduced by the project to existing noise levels is not considered an environmental impact because ambient noise levels are not caused by the project, rather are a product of the existing environment and current condition. Exposure of new residents to elevated ambient noise levels is addressed to determine land use compatibility and identify a potential conflict with the City's General Plan.

The future noise environment at the project site due to trucks and operations at the Clover Stornetta Facility has the potential to expose residents to noise levels identified in the General Plan as "conditionally acceptable". Private outdoor areas of residences located directly adjacent to Clover Stornetta Facility would be exposed to noise levels of up to 67 to 68 dBA CNEL, whereas City standards identify 60 dBA or below as generally acceptable for residential uses.

To maintain compatibility with the City's General Plan, and avoid a conflict with General Plan policy 10-P-3, Mitigation Measure LU-2, set forth above, provides for a noise barrier to protect private outdoor spaces and ensure that first floor occupants are not exposed to noise levels that exceed City standards. Furthermore, Mitigation Measure LU-3, set forth above, provides for forced air ventilation and sound rated windows, doors and construction methods to achieve exterior to interior noise attenuation. The City of Petaluma requires interior noise levels for new residential uses to be 45 dBA CNEL or less. Typical construction, with windows partially open, are approximately 15 dBA less than exterior noise levels. With windows closed, typical construction provides a decrease from exterior noise levels of approximately 20 – 25 dBA. Residential units adjacent to the Clover Stornetta facility will be exposed to exterior noise levels of up to 68 dBA. Considering the exterior to interior noise reduction provided by typical construction, the project's Environmental Noise Assessment indicates residential units would be exposed to noise levels between 43 to 53 dBA with windows closed and open, respectively. With Measure LU-3 exterior to interior noise reduction would achieve the City's interior noise standard, 45 dBA CNEL, for residential uses. Therefore, with the Mitigation Measure set forth in the land use section, the project would not result in a potential land use compatibility conflict due to introducing new sensitive

receptors adjacent to the existing Clover Stornetta facility.

4.13 (b) (Groundborne Vibration and Noise) Less than Significant Impact: The project would result in temporary noise and vibration during construction activities at typical levels associated with single-family development. Demolition, site improvements, building construction, and material hauling will involve the use of heavy-duty construction equipment that generate groundborne noise and vibration. Construction activities will occur generally at distance of 70 to 90 feet from nearest sensitive receptor (residential uses). For structural damage a vibration limit of 0.5 inches per second, peak particle velocity (PPV) is applied. Vibration levels from construction equipment as near as 20 feet ranges from 0.004 (for a Small Bulldozer) to 0.26 (for a vibratory roller). Because construction activities will not occur closer than 90 feet from existing structures, impacts from groundborne vibration would be less than significant.

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

Noise Mitigation Measures:

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

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

13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

4.14. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

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

Population and Housing Setting: The 2025 General Plan contemplates development of approximately 6,000 additional residential units and a buildout population of approximately 72,700. This represents an annual growth rate of nearly 1.2% per year. The project would add 30 single-family dwelling units. The project site is identified as Site #23 on the Residential Land Inventory of the City of Petaluma 2015-2023 Housing Element, prepared December 2014. As described in the Housing Element, the site is classified as Diverse Low Density Residential allowing up to 12 housing units per acre with a capacity of 29 units.

As required by the City's inclusionary housing policy, a minimum of 15% of the units need to be provided onsite at an affordable level comprised of 7.5% at the low-income level and 7.5 % at the moderate-income level, or alternative compliance. The project proposes 30 homes; twenty-four of the units will be detached single-family units and six of the units will be attached single-family units distributed across the site. Five of the six attached single-family units will be designated low-income and moderate-income homes.

According to the U.S. Census Bureau's, American Community Survey, five-year estimates between 2014 and 2018, the City of Petaluma has a total of 23,172 housing units and is home to 60,635 people. As a 30-unit development with an average of 2.66 persons per owner-occupied household, the proposed project is expected to add approximately 80 people.

Population and Housing Impact Analysis:

4.14 (a) (Substantial Unplanned Growth) Less than Significant: The project site is located within the UGB, on a property that is identified as a Housing Opportunity Site in the Petaluma Housing Element and will not directly or indirectly induce substantial growth. The projected population increase of 80 persons does not constitute a substantial increase and remains sufficiently below the General Plan 2025 population projections. The proposed project site is surrounded by residential uses to the north and east, the Petaluma River to the west, and industrial uses to the south. The extension of utilities will be limited to provide services to the subject property. The project is not expected to promote further development beyond what is proposed for the project site and will not extend services to areas where services were previously unavailable. Therefore, the project will have less than significant impacts related to growth inducement.

4.14 (b) (Housing or Persons Displacement) No Impact: The proposed project would introduce 30 new

residential units to a currently vacant parcel. There is no existing housing on the site that would be removed by this project and no persons that would be displaced. Therefore, the project would result in no impacts due to the displacement of a substantial number of housing units.

Population and Housing Mitigation Measures: None required.

4.15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☐	☒

Sources: City of Petaluma General Plan 2025 and EIR.

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

Public Services Impact Analysis:

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

General Plan policy 7-P-19 establishes a four-minute travel time and six-minute response time for emergencies within the city. The project is situated approximately 0.5 miles from Fire Station 1, located at 198 East D Street, approximately two miles from Fire Station 2, located at 1001 N. McDowell Boulevard, and approximately 1.3 miles from Fire Station 3, at 831 S McDowell Boulevard. The project is within the response radii of all three fire stations (General Plan EIR Figure 3.4-2) and travel time is achievable within the targeted four minutes. The project is consistent with the General Plan 2025 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 ability to travel in opposing travel lanes in congested conditions.

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

4.15 (c) (Schools) Less than Significant Impact: The Project will not result in a substantial increase in student enrollment requiring new school facilities. The project site is located within the Petaluma Elementary School District. The nearest school, McKinley Elementary School, is located 0.3 miles from the project site at 110 Ellis Street. The General Plan projects that the Petaluma Elementary School District will experience a slight increase in enrollment, but that the projected enrollment would not exceed the existing capacity of the public elementary schools located within the city limits. Overall, the projected enrollment for public elementary schools citywide would decline and would utilize 93.9 percent of available capacity. Adequate school facilities are in place to accommodate the minor increase in enrollment associated with development of the proposed 30 units. The project is subject to the payment of statutory school impact fees to offset any cumulative impacts on the school system. Therefore, the proposed project will have less than significant impacts to schools.

4.15 (d) (Parks) Less than Significant Impact: The City has adopted a citywide parks standard of five acres of parkland per 1,000 residents. The nearest existing parks to the project site are located on East Washington Street including Kenilworth Community Park and the Petaluma Swim and Skate Park. There are also public open space trails along the Petaluma River and Lynch Creek. The project proposed to install a public open space area and construct enhancement to the existing Lynch Creek Trail along the length of the Petaluma River between the Edith Street and Lakeville Street. The public open space area will include walking paths, bench seating, a picnic area and a metal swing bench. The enhanced trail will replace the current dirt trail with a more durable surface and gravel shoulders. Additional landscaping vegetation and new oak trees will enhance the natural characteristics of the riparian corridor.

Parks in the vicinity of the project site provide recreational opportunities to residents introduced by the project. Existing park facilities are expected to be sufficient to meet active and passive recreational demands of new residents. The project will not result in deviating from the City's per capita park standard. 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 other public facilities. The project area is surrounded by established residential uses and is well served by existing public services and facilities. The project will not generate a substantial increase in demands that warrant the expansion or construction of new public facilities. Therefore, there would be no impacts related to other public facilities.

Public Services Mitigation Measures: None required.

4.16. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

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

Recreation Setting: The City of Petaluma offers a variety of passive and active 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 in the southwestern edge of the city, is managed by the Sonoma County Regional Parks Department. Regional trails traverse the city limits as existing and proposed sections of multi-county trail networks that span the nine-county region, including the Bay Area Ridge Trail and San Francisco Bay Trail. The City and Sonoma Water own and maintain most of Petaluma's creeks and channels, with several waterways designed to include a multi-use trail alongside its banks. These creekfront and riverfront trails contribute to the outdoor recreational opportunities.

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

The City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies existing and proposed bicycle routes on three sides of the project site. A Class I multi-use trail facility exists on the west side as Lynch Creek Trail, and Class I trail is proposed along the project's norther frontage on Edith Street between Madison Street and Lynch Creek Trail. A Class III signed-bicycle route is identified along Madison Street on the project's eastern border.

The Lynch Creek trail runs along the western portion of the project site and continues toward Downtown to Lakeville Street and north to North McDowell Boulevard. The nearest parks are Kenilworth Park to the east 1,400 feet and Penry Park, approximately 2,000 feet to the south. The Bay Area Ridge Trail runs along Lynch Creek Trail along the western length of the project.

The project includes expansion and enhancement of outdoor passive recreational opportunities. The project will develop and dedicate 0.71 acres to the City of Petaluma for use as a public open space, which will include new walking trails, bench seating, a picnic area, and a metal swing. The project also includes improvements to the Lynch Creek Trail from the Edith Street trail access point to the concrete multi-use ramp at the Lakeville Street bridge.

Recreation Impact Analysis:

4.16 (a-b) (Park Deterioration and Recreation Facilities) Less Than Significant Impact: The project will result in an incremental increase in the use of nearby parks and multi-use trail systems. This includes the Lynch Creek Trail on the western border of the project site and the nearby Kenilworth Park, Penry Park and Swim Center and Skate Park. The increased park use as a result of implementation of the project would not result in substantial physical deterioration of facilities nor would deterioration be accelerated. Moreover, the park and open space-related development impact fees required of the project adequately address incremental increase in the use of parks. Therefore, impacts related to the physical deterioration of parks and other recreational areas would be less than significant.

4.16 (b) (Recreation Facilities) Less Than Significant Impact: The 30-unit single-family residential project will introduce approximately 80 new residents as park users to the city's recreation resources. A new public open space (0.71 acres) will be created adjacent to the residential project providing outdoor recreation space. The public open space will include an additional public access point to the new private street and will introduce native

planting and landscaping. The project will improve drainage by upgrading the existing dirt trail to a concrete tail and introducing pedestrian and bicyclist amenities at the Edith Street and Lynch Creek Trail intersection. These physical improvements will fulfill Policy 6-P-1-F by enhancing the scenic quality of the Lynch Creek Trail. Impacts associated with improvement to the Lynch Creek trail and public open space to be developed as part of the proposed project are analyzed throughout this CEQA document. Potential environmental impacts related to the construction of recreational facilities as part of the proposed project would result in less than significant impacts.

Recreation Mitigation Measures: None Required.

4.17. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Sources: City of Petaluma General Plan and EIR; City of Petaluma Bicycle and Pedestrian Plan 2008; Technical Advisory on Evaluating Transportation Impact in CEQA, prepared by the California Office of Planning and Research, December 2018; Traffic Study for Riverbend, prepared by W-Trans, December 23, 2019; Petaluma River Access and Enhancement Plan, May 1996; Fire Access Exhibit for 529 Madison Street, prepared by Steven J Lafranchi & Associates, October 2019.

Transportation Setting: The City of Petaluma is bisected by Highway 101, which serves as the primary route between San Francisco and Marin and Sonoma Counties. Highway 101 accommodates over 90,000 vehicles per day, within Petaluma. Petaluma is served by several bus operators including Golden Gate Transit, Sonoma County Transit, and Petaluma Transit, and the 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. As described in the Section 4.11 Land Use and Planning, the Petaluma River Access and Enhancement Plan directs the guides development, conservation, and trail access along the Petaluma River.

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,[9] 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,[10] which provides technical recommendation regarding assessment of vehicle miles traveled (VMT), as an alternate to LOS, thresholds of significance for VMTs, and mitigation measures. To date (May 2020) neither the City of Petaluma nor the Sonoma County

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

Transportation Authority (SCTA) have adopted VMT thresholds. Absent locally adopted thresholds of significant and VMT metric, 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. CEQA Guidelines section 15064.3 subdivision (b)(1) states that land use "projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact."

Public resources code Section 21064.3 defines major transit stop as a site containing an existing rail transit station, a ferry terminal serviced by either a bus or rail transit, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. Public resources code Section 21155 defined a high-quality transit corridor as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. Projects that are located within ½ mile of a major transit stop are presumed to have less than significant transportation impacts. The project site is located within ½ mile of the existing SMART station located in downtown Petaluma on Lakeville Street between East Washington and D Street.

The project site is located south of Highway 101 in the central portion of Petaluma. It is situated at 529 Madison Street, south of Edith Street, west of Madison Street, east of the Petaluma River, and north of the Clover Stornetta facility. The existing Lynch Creek Trail bisects the western portion of the project site. Both project-adjacent streets (Edith and Madison Streets) provide on-street parking and are improved with curbs, gutters, and sidewalks on both sides, except for the project's frontage on Madison Street that currently lacks a sidewalk.

The intersection of Edith Street and Madison Street, adjacent to the northeast corner of the project site, is a two-way stop-controlled intersection (with stop signs on Edith Street at the approaches to Madison Street), with no crosswalks. Edith Street is a local low-speed street that connects to Madison Street, a collector street with posted speed limit of 25 miles per hour. Wilson Street is located south of the project site and runs parallel to Edith Street providing local connectivity to East Washington Street to the east. The major arterials serving the project site and vicinity are East Washington Street to the east (approximately 1,000 feet from the project site) and Lakeville Street to the south (approximately 500 feet from the project site).

General Plan Figure 5-2 (Proposed and Existing Bicycle Facilities map) shows bicycle facilities on three sides of the project site and Policy 5-P-20 requires that new development provide connection to trail and not interfere with existing or bicycle facilities. The existing Lynch Creek Trail bisects the project site is accessible from the terminus of Edith Street. The eastern road bordering the project site, Madison Street, is proposed for a Class III signed bicycle route. The Edith Street project frontage is identified as a Class I off-street multi-use trail in Figure 5-2, however current improvements are limited to a 6-foot wide sidewalk on both sides of Edith Street.

A Traffic Report for Riverbend (**Appendix F**) prepared by W-Trans, December 23, 2019, assesses traffic impacts from the proposed project. Based upon the Institute of Transportation Engineers Trip General Manual[11], the Traffic Report estimates that the project will generate approximately 283 new trips each day including 22 peak hour am trip and 30 pm peak hour trips.

As part of the 30-unit single-family project, several improvements will be made to the circulation network for pedestrians, bicyclists, and motorists. A new private street will be developed that bisects the project site allowing for vehicular access to homes on the interior of the site. New 5-foot wide sidewalks will be installed along the private road and along Madison Street, and the existing meandering sidewalk along Edith Street frontage will be replaced. Further pedestrian enhancements include a new striped crosswalk marking on the southern leg of the Madison Street/Edith Street intersection. A new pedestrian access point will be developed connecting the new private street to Lynch Creek Trail approximately 55 feet from the existing Edith Street access. Additional improvements will be made to the trail, including an enhanced entrance at Edith Street with 3 bicycle racks for parking, drinking fountain, and self-serving bicycle repair station. A second pedestrian access point to the Lynch Creek Trail will be provided from the project site. The project proposes to upgrade the surface treatment of Lynch Creek Trail with more a durable 10-foot wide concrete pathway from Edith Street to Lakeville Street with

[11] *Institute of Transportation Engineers (ITE) in Trip Generation Manual, 10th Edition, 2017 for "Single Family Detached Housing" (ITE LU #210)*

2-foot GraniteCrete shoulders where feasible. Additionally, the project will label Class 3 bicycle route markings on Madison and Edith streets.

Additional offsite improvements to the circulation network consist of restriping on Wilson Street at the eastbound approach to East Washington Street. At this location, Wilson Street will be restriped to include one shared through and left-turn arrow and one right turn arrow. Red curb painting will be installed at the driveways adjacent to this intersection to exclude vehicle parking and avoid potential sight conflicts.

Parallel parking is currently allowed at the site frontage along Madison Street and Edith Street which accommodates 31 vehicles to park on-street. According the Traffic Study, the project would retain 10 public on-street spaces along the site frontage of Madison and Edith Streets. Fifteen (15) additional parking spaces would be introduced for on-street parking on the private street. The project would introduce 48 covered parking spaces and 48 uncovered parking spaces for a total of 92 spaces.

The Clover Stornetta facility has limited onsite parking for its employees, approximately eight to nine dedicated passenger vehicle parking spaces. The remaining employees currently utilize available on-street parking in the surrounding neighborhood, including along the project's frontage of Edith and Madison Streets.

Transportation Impact Analysis:

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

As described in Land Use (4.11), the City's Bicycle and Pedestrian Plan and Figure 5-2 of the General Plan identifies a Class I multi-use trail facility along the project's frontage on Edith Street between Madison Street and Lynch Creek Trail. However, there are currently no bicycle facilities on this road segment. The project applicant requested the Pedestrian and Bicycle Advisory Committee (PBAC) to consider re-classification from the anticipated Class I bicycle facility to a Class III bicycle facility on the Edith Street frontage. PBAC recommended that a Class III bicycle facility would be appropriate based on the segment of Edith Street (dead-end street, short street segment, and low traffic volumes. PBAC recommended that the project be subject to a condition of approval stipulating that Edith Street be improved as a Class III facility. This condition has been imposed on the project. Although the Class III bicycle route designation conflicts with Bicycle and Pedestrian Plan labeling a Class I off-street path on Edith Street, the project will fulfill the intent of the Plan by labeling the bicycle route (Class III), enhancing public bicycle access to the Lynch Creek Trail, installing a self-service bicycle repair station at Edith Street's access point to Lynch Creek Trail, and upgrading the Lynch Creek Trail. Therefore, the project is generally consistent with the City's Bicycle and Pedestrian Circulation Plan and will not present a conflict that would result in an environmental impact.

General Plan Policy 5-P-26 requires new development with river frontage to incorporate river access points spaced at minimum intervals of 500 to 1,000 feet. The project complies with this policy as it continues to provide access the Lynch Creek Trail at Edith Street and introduced a secondary access point from the new private street, approximately 120 feet south of the Edith Street Access. Thus, the project is consistent with this policy.

As detailed in the Traffic Impact Study (**Appendix F**), 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 single-family housing (ITE Land Use #210). As presented in Table 6 below, the Project will generate 283 daily trips including 22 am peak hour trips and 30 pm peak hour trips.

Table 6 : Trip Generation Summary

		Daily		AM Peak Hour		PM Peak Hour	
Land Use	**Units**	**Rate**	**Trips**	**Rate**	**Trips**	**Rate**	**Trips**
Single Family	30 du	9.44	283	0.74	22	0.99	30

Source: Table 1, p. 1, Traffic Study for Riverbend, W-Trans, December 2019.

As presented in Table 7, LOS was evaluated under cumulative and cumulative plus project conditions at two study intersections; East Washington Street and Wilson Street, and East Washington Street and Edith Street. Both intersections are stop sign controlled at their approach to East Washington Street. The automobile delay

added by the project at the East Washington Street and Wilson Street intersection will increase by more than 5 seconds and present a potential conflict with the City's level of service standard. As described above, LOS delay is no longer considered an environmental impact. However, to minimize operational deficiencies from LOS delay, the project is conditioned to restripe Wilson Street at its approach to East Washington Street to provide two eastbound lanes; one shared left-turn/through lane and one dedicated right-turn lane. With restriping the LOS delay will be substantially reduced under cumulative conditions and the project would not conflict with roadway operations.

The automobile delay at East Washington Street and Edith Street will be less than 5 seconds, and as such does not conflict with a General Plan policy regarding LOS or operations.

Table 7: Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service

Study Intersections ***Approaches***	**Cumulative PM Peak**	**Cumulative plus Project PM Peak**
E Washington St/Wilson St	**414.6** / **F**†	**453.0** / **F**†
Northbound (Wilson St) Approach	** / *F*	** / *F*
Southbound (Wilson St) Approach	** / *F*	** / *F*
Mitigated	--	**270.6** / **F**†
Northbound Approach (Mitigated)	--	** / *F*
Southbound Approach (Mitigated)	--	*118.7 / F*
E Washington St/Edith St	**247.0** / **F**†	**250.7** / **F**†
Northbound (Edith St) Approach	** / *F*†	** / *F*
Southbound (Edith St) Approach	** / *F*†	** / *F*

Source: Table 2, p. 2, Traffic Study for Riverfront, W-Trans, December 2019.
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results shown as Delay/LOS; Results for minor approaches to two-way stop-controlled intersections are indicated in italics; ** = delay greater than 120 seconds; **Bold** text = deficient operation; † PM Cumulative overall intersection delay greater than 120 seconds is reported to compare delays with and without recommended mitigation measures.

Traffic signal warrants were considered at study area intersections. However, with restriping operations at the East Washington Street and Wilson Street intersection would be improved and signalization would not be warranted. Operations at the East Washington Street and Edith Street intersection would not substantially increase delays to warrant signalization. Thus, traffic signalization is not warranted at either of the two study area intersections.

The existing on-street public parking supply along the site frontage to Madison and Edith Street total 31 spaces. With the proposed Project, available street parking on Edith and Madison will be reduced to 10 public parking spaces (9 on Edith Street and 1 on Madison Street). However, the new private street introduced by the project includes parking shoulders on both sides and will accommodate an estimated 15 on street parking stalls. Parking in the driveway and garages of new residences will provide a total of 92 onsite parking spaces. As such, a total of 107 parking spaces, not including the 10 public spaces on Madison and Edith and Streets will be introduced by the project. Although the project slightly exceeds the required parking supply of 96 spaces, by 11 spaces, the project removes 21 currently available public parking spaces. Thus, the net parking availability along the project site frontage of Madison, Edith and the new private street, is a reduction of 10 spaces. As such the proposed parking is generally consistent with the City's parking requirements and no conflict is anticipated due to an overabundance or lack of available parking.

As described above, the project is generally consistent with General Plan policies regarding circulation including the City's Bicycle and Pedestrian Plan. Although the Project would increase delays at two study intersections, LOS and vehicle delay is no longer considered an environmental impact. Further, the project is conditioned to restripe Wilson Street in order to minimize vehicle delay. 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 Impact: As an infill residential development, the proposed project is not expected to substantially increase vehicle miles travels (VMTs) due to its proximity to regional transit. The project will provide housing near goods and services, public schools, the Lynch Creek trail, and employment centers located within Petaluma. Table 8, presents the estimated VMT that will be generated by the proposed project.

Table 8 : Vehicle Miles Traveled				
Land Use	**Units**	**Average Trip Length**	**Daily Trips**	**Calculated Daily VMT**
Single-family Housing	30 units	13.24 miles	283	3,747
Source: Table 3, p. 3, Traffic Study for Riverfront, W-Trans, December 2019.				

The project was reviewed using the guidance set forth in Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impact in CEQA, published December 2018. In accordance with CEQA Guidelines Section 15604.3(b)(1), projects within a half-mile of an existing major transit stop (such as the Petaluma downtown SMART station), are presumed to have a less than significant impact to VMT. The project is located within a half-mile of the SMART station in downtown Petaluma and is therefore presumed to have less than significant impacts to VMT.

4.17 (c) (Geometric Design Feature Hazard) Less Than Significant Impact: As proposed the project would retain the geometric design of Edith Street and Madison Street and would introduce a new private street consistent with City standards. The private street will provide through access to the site between Madison Street and Edith Street. From Madison Street it will extend approximately 375 feet where it curves to the north and extends approximately 180 feet where it ties in to the Edith Street cul-de-sac. The private street will accommodate two 10-foot travel lanes, two 8-foot parking lanes, two 4.5-foot landscape strips and 5-foot sidewalks on both sides. Frontage improvements to Madison Street, Edith Street, and the new private street include curb, gutter, landscaping, and sidewalks in accordance with City of Petaluma standards and ADA requirements. The proposed project would not introduce any geometric design feature hazards. Therefore, impact related to design hazards would be less than significant.

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

The increase of construction vehicles traveling to and from the project site on a temporary basis would not result in inadequate emergency access. Madison and Edith streets 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 Edith and Madison streets. Therefore, temporary impacts to emergency access will be less than significant during project construction.

Transportation Mitigation Measures: None required.

4.18. TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources	☐	☒	☐	☐

	Code section 5020.1(k), or			
ii.	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Sources: City of Petaluma General Plan 2025 and EIR; and Cultural Resources Report for the Riverbend Project, prepared by Dudek, May 12, 2020.

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

A Cultural Resources Report was prepared by Dudek 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 along the Petaluma River and has been heavily disturbed from past activities associated with the Clover Stornetta facility, including use as a staging area for construction, storage area, a parking lot, and truck turn around. Nonetheless, due to the site's location, there's an elevated potential to contain buried cultural resources.

In accordance with PRC Section 21080.3.1(d), the City of Petaluma provided written formal notification to the Federated Indians of Graton Rancheria (FIGR) on December 5, 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 January 13, 2020, after the statutory timeframe provided by Public Resources Code §21080.3.1, FIGR responded to the City's notice requesting consultation. On February 4, 2020, Petaluma City staff and FIGR representatives met to discuss the project. FIGR expressed concerns regarding the project site's elevated potential to contain buried tribal cultural resources and request that an auger study be performed.

In response to the tribal consultation meeting, the Cultural Resources Report was augmented to include an extended auguring study that investigated subsurface soil conditions. No additional archaeological materials or indication of subsurface deposits were identified through that effort. The revised Cultural Resources Report was provided to FIGR on April 6, 2020. A FIGR representative provided comments requesting clarification to language presented in the recommended mitigation measure. The mitigation measure presented below incorporates input received through tribal consultation. Tribal consultation is understood to have been completed to the satisfaction of FIGR as of May 2020.

Tribal Cultural Resources Impact Analysis:

4.18 (ai - aii) (Listed or Eligible for Listing) Less than Significant Impact with Mitigation: The Cultural Resources Report evaluated past studies and reports that have documented the existence of Native American resources in the vicinity of the Riverbend project site. Past studies conducted surface and subsurface tests to determine the presence of cultural resources. Although the past studies 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 Cultural Resources Report also includes results of an onsite pedestrian survey and hand auger investigation that evaluates subsurface conditions. The pedestrian site survey yielded negative results for tribal cultural resources, noting that most of the soils have been previously disturbed by grading and possible fill importation. Other than on possible prehistoric chert flake, the hand auger survey did not encounter any archaeological materials or indication of subsurface deposits.

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 the Project 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, the 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 and treatment during construction activities. Therefore, with implementation of CUL-1 potential impacts to tribal cultural resources will be reduced to less than significant levels.

Tribal Cultural Resources Mitigation Measure: Cultural Resources Mitigation Measure, CUL-1

4.19. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; Preliminary Drainage Analysis, Steven J. Lafranchi & Associates, Inc., March 2019; Preliminary Water Distribution Calculations, Steven J. Lafranchi & Associates, Inc., March 2019; Stormwater Control Plan For a Regulated Project UGI Riverbend, Steven J. Lafranchi & Associates, Inc., April 27, 2020; Preliminary Maximum Applied Water Allowance - Landscape Architect, March 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 occasionally supplemented with local groundwater. Water from the Russian River Water System is obtained via the Petaluma Aqueduct through a contract with Sonoma Water (formerly Sonoma County Water Agency). The City's Water Resource and Conservation Division (WR&C) provides municipal water service to approximately 60,000 customers and therefore must comply with the Urban Water Management Plan Act, which requires the preparation of an Urban Water Management Plan (UWMP) every five years. In 2015, the City updated its UWMP including a baseline demand analysis in compliance with the interim 2015 Urban Water Use target, an Urban Water Use target analysis for 2020, projected water use through 2040, and identified programs to achieve the target water demand reductions.

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

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

The project is subject to the latest building code standards, which require water efficiency for indoor and outdoor water uses. The City imposes a Maximum Applied Water Allowance (MAWA) for landscaping, which 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 Riverbend 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. The city's wastewater infrastructure and treatment facility are sufficient to accommodate increased demand from the proposed project.

Storm Drains

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

Steven J Lafranchi & Associates, Inc. prepared a site-specific preliminary Stormwater Control Plan and a Preliminary Drainage Analysis. The Riverbend project will increase the total post-project impervious surface

area from one square foot to 72,324 square feet. The Stormwater Control Plan describes the operation of an advanced stormwater capture system designed to collect rainwater runoff from new impervious surfaces through a network of bioretention basins, drainage swales, gutters and new piping that will divert runoff into existing stormwater pipes. The Preliminary Drainage Analysis evaluates the capacity of the project's stormwater plan to accommodate the stormwater runoff from a 10-year storm event. These studies demonstrate that the project has been designed to comply with City and County requirements for stormwater management.

Utilities and Service Systems Impact Analysis:

4.19 (a) (Relocation/Expansion of Utilities) Less Than Significant Impact: The project site is well served by existing utilities.

According to the Riverbend report describing the Preliminary Water Distribution Calculations, the surrounding water main connections have the appropriate water pressure levels required to deliver water to new residences without needing additional booster pumps to the system. In addition to existing water, the wastewater, electric power, natural gas, and telecommunications facilities extend to the project site and have sufficient capacity to service the proposed 30-unit development. Based on the size and scale of development the project will not require or result in the relocation or expansion of utilities. Therefore, the project is expected to result in less than significant impacts.

Currently, there is no storm drain system located onsite and stormwater runoff sheet flows downgrade. The proposed project will increase impervious surfaces onsite from new buildings, the new private street, walkways, and driveways. The project includes approximately 72,324 square feet of impervious surfaces with the remaining areas to be landscaped. Onsite drainage improvements will be installed during construction and designed to capture stormwater runoff and convey flows to onsite bioretention areas.

The project has been designed with the integration of Low Impact Design (LID) standards. Proposed LID measures include tree plantings, permeable concrete and bioretention areas that capture stormwater runoff during precipitation events and provide treatment prior to release into the city's stormwater drainage system. According to the Preliminary Drainage Analysis of the proposed LID measures and compliance C.3 stormwater requirements, the project will not significantly increase runoff relative to the existing condition and no new offsite stormwater facilities will be required. Therefore, the project will have less than significant impacts due to the expansion of existing storm water drainage facilities or construction of new facilities.

4.19 (b) (Sufficient Water Supplies) Less Than Significant Impact: In evaluating the sufficiency of water supplies to meet existing water demands in addition to water demand generated by the proposed project, the City has compared General Plan 2025 projected water demand to actual use. In 2018 the City's average per capita water usage rate was 75.35 gallons per capita per day (GPCD).[12] 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.[13] 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.

As noted in General Plan 2025 Policies 8-P-5-C and 8-P-19, the City anticipated continuing use of groundwater to meet emergency needs and to offset peak demands. Per Policy 8-P-4 of the Petaluma General Plan 2025, City staff is required to monitor actual demand for potable water in comparison to the supply and demand projections in the 2006 Water Supply and Demand Analysis Report. Based on the 2015 UWMP, the demand for potable water supplies in 2015 was 8,226 acre-feet for all uses including single and multi-family residential, commercial, industrial, institutional/governmental, and landscaping. By 2040 the water demand for buildout of the General Plan is projected to be 9,435 acre-feet per year.[14] 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.

[12] *Water Usage Summary February 2019, City of Petaluma Department of Public Works.*
[13] *City of Petaluma 2015 Urban Water Management Plan, page 23.*
[14] *City of Petaluma 2015 Urban Water Management Plan, Table 3-6, Total Water Demands.*

A comparison of actual demand for potable water was made relative to the annual Sonoma Water supply limit for Petaluma of 4,366 million gallons per year (13,400 acre-feet) and a peak supply limit of 21.8 million gallons per day. In both instances, potable demand is well within available supply capacity. The projected demand is less than 10,000 acre-feet.[15] 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 supply.

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

The proposed project is consistent with development anticipated by the General Plan and water demands are captured in the 2015 UWMP for future year conditions. Additionally, the project will be subject to the latest California Building Code requirements including plumbing and water efficiency 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: The expected wastewater generated by the project is consistent with the service needs anticipated by the Petaluma General Plan 2025 and will not require the expansion of treatment facilities. Applicable City Wastewater Capacity fees will be collected to fund the project's share for use of wastewater facilities and planned improvements. Wastewater flows from the proposed project will be conveyed to the Ellis Creek Water Recycling Facility, which has sufficient operating capacity to handle the additional flows generated by the proposed project. There would be no new construction or expansion of wastewater facilities as part of the proposed project.

As a 30-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: The proposed project consists of the development of 30 single-family dwelling units, the construction of a new private street, creation of 0.71-acre park, and improvements to the Lynch Creek Trail. Construction and operation of the project will contribute to the generation of solid waste. As a residential project the amount of solid waste generated will be consistent with the service needs anticipated by the Petaluma General Plan and evaluated in the General Plan EIR.

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

The City is under contract with Recology for solid waste disposal and recycling services. Recology provides canisters for garbage, green (plant waste) materials, and recycling. Solid waste is collected and transferred to the Sonoma County landfill sites. Solid waste disposal facilities are owned and operated by the Sonoma County Department of Transportation and Public Works and the City maintains a franchise solid waste hauling agreement requiring the franchise hauler as part of its contractual obligations to select properly permitted Approved Disposal Location(s) with adequate capacity to serve city service needs. The project would be supplied with the same solid waste and recycling opportunities through the County's existing waste

[15] *See Item 4(B) of June 1, 2015 City Council agenda (http://cityofpetaluma.net/cclerk/archives.html).*

management system via the City's solid waste service provider. Although the project would generate additional solid waste, it is not expected to exceed landfill capacity and is not expected to result in violations of federal, state, and local statutes and regulations related to solid waste. Therefore, the project will have a less than significant impact due to the generation and disposal of solid waste.

Utilities and Service Systems Mitigation Measures: None Required.

4.20. WILDFIRE

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

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

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

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

The project site is located centrally in Petaluma along the Petaluma River and contains a narrow riparian corridor. The surrounding uses are existing single-family residential to the north and east, and industrial operations to the south. The project site is a generally flat and is regularly mowed for weed abatement and fire control purposes. There project site and surrounding area present low fuel load conditions and have a low risk of wildfire.

Wildfire Impact Analysis:

4.20 (a-d) (Impair Emergency Plan, Expose Occupants to Wildfire Pollutants, Require Infrastructure, Pose Wildfire Related Risks) No Impact: The project site is categorized as a Non-VHFHZ by CAL FIRE and by Petaluma's Fire Prevention Bureau. The project is not located in or near CalFire's state responsibility areas of lands classified as very high fire hazard severity zones. The project site is located over one mile from state responsibility areas. Petaluma's Very High Fire Hazard Severity Zone is located over one mile from the Riverbend 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 no impacts related to wildfire risks.

Wildfire Mitigation Measures: None required.

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

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

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Mandatory Findings Discussion:

4.21 (a) (Degrade the Environment) Less Than Significant Impact with Mitigation Incorporated: As presented throughout this analysis the project has the potential to result in temporary and permanent impacts

to environmental resources. However, with standard condition of approval and implementation of mitigation measure identified herein, potential impacts will be reduced to less than significant levels. As described above in the Biological Resources discussion, impacts to special-status plants, wildlife species, or sensitive habitat communities will be avoided or reduced with implementation of mitigation measures. Mitigation measures set forth in the Biological Resources discussion ensure that potential impacts due to possible presence of special-status bats, nesting raptors, nesting passerine birds or waterfowl, fill to an isolated low-quality wetland, and removal of protected trees, will be reduced to less than significant levels. Additionally, the Cultural Resources discussion identifies measures to ensure that potential impact to buried cultural resources are avoided. The Hydrology and Water Quality discussion and the Geology discussion identify measures to avoid and minimize potential environmental impacts associated with water quality, flooding, and soil stability. As described above, the project proposes onsite stormwater improvements that will capture runoff and provide for pretreatment prior to discharging to the City's storm drain system. No other impacts associated with environmental degradation, plant or animal communities, species population and ranges, or California history or pre-history have been identified. As such, with conditions of approval imposed by the City and implementation of mitigation measures set forth herein, the project will not degrade the quality of the environment, reduce habitat, or affect cultural resources. Therefore, the project will have less than significant impacts due to degradation of the environment.

4.21 (b) (Cumulatively Affect the Environment) Less Than Significant Impact: The project will contribute to cumulative impacts identified in the City's General Plan EIR but not to a level that is considered cumulatively considerable. As described above, the project will contribute to incremental growth in the City resulting in increased demands for public services and utilities, additional trips on city and regional roadways, and contributions to air quality and GHG emissions. Given that the scale of the project is limited to a 30-unit residential development, the incremental increase in cumulatively demand will be negligible.

The project's application for a zoning change from R3 to PUD and vesting tentative map to subdivide the property into 30 lots will implement the intent of the UGB through the development of a vacant parcel in the existing urbanized area at an elevated density (General Plan Policy 1-P-2). Public utility and service providers will be capable of serving the project with existing or planned facilities. Potential environmental impacts are expected to remain at, or be mitigated to levels below significance, and long-term environmental goals are not expected to be adversely impacted by the project. Therefore, the project's cumulative impacts will be less than significant.

4.21 (c) (Substantial Adverse Effect on Humans) Less Than Significant Impact with Mitigation Incorporated: The project has the potential to result in adverse impacts to humans primarily due to potential land use conflict with air quality and noise standards. Through mitigation measures presented in the land use section (4.11), development and operation of the proposed project will reduce potential health risk and noise exposure impacts to levels below significance. By incorporating the mitigation measures set forth above, environmental effect that would directly or indirectly impact human beings onsite or in the project vicinity will be reduced to less than significant levels. Therefore, the project will have less than significant impacts due to substantial adverse effects on human beings.

Mitigation Measures: None required.

5. REFERENCE DOCUMENTS

5.1. TECHNICAL APPENDICES

A. Air Quality & Greenhouse Gas Emissions Assessment for Riverbend Residential Development, Prepared by Illingworth & Rodkin, Inc., January 7, 2020.

B. Arborist Report for Riverbend, 529 Madison Street, prepared by Becky Duckles, March 18, 2019, updated January 2020.

C. Biological Resources Analysis UGI Riverbend, prepared by Monk & Associates, March 15, 2019.

D. Cultural Resources Letter Report for the Riverbend Project, City of Petaluma, prepared by Dudek, May 12, 2020. (Confidential)

E. Environmental Noise Assessment, Residential Development, prepared by Illingworth & Rodkin, Inc., April 5, 2019.

F. Traffic Study for Riverfront, prepared by W-Trans, December 23, 2019.

5.2. OTHER DOCUMENTS REFERENCED

1. American Community Survey 2018 5-Year Estimate, Selected Housing Characteristics, Table DP04, Petaluma.
2. Architectural Review Drawings for 529 Madison Street, prepared by Edward C. Novak Architect, June 3, 2019.
3. BAAQMD 2017 Bay Area Clean Air Plan, prepared by the Bay Area Air Quality Management District, April 2017.
4. Bay Area Air Quality Management District website, Air Quality Index – Fine Particulate Matter, November 2019.
5. California Scenic Highway Mapping System, Scenic Highway System Lists, 2019.
6. California Department of Conservation, Farmland Mapping and Monitoring Program, Sonoma County, 2016.
7. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.
8. CalFire Fire Hazard Severity Zone Maps, Sonoma County, 2019.
9. California Energy Consumption Database, Electricity and Natural Gas Consumption by Sonoma County 2018.
10. California Energy Commission, Energy Almanac, Total System Electric Generation, 2018.
11. California Energy Commission, Energy Almanac, Supply and Demand of Natural Gas in California, 2018.
12. California Energy Commission, Energy Almanac, Transportation Energy, 2018.
13. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.
14. California Green Building Standards Code (CalGreen), effective January 1, 2020.

15. City of Petaluma, General Plan 2025 and Environmental Impact Report, 2008.
16. City of Petaluma Municipal Code and Implementation Zoning Ordinance.
17. City of Petaluma 2015 Urban Water Management Plan, prepared June 2016.
18. City of Petaluma SMART Rail Station Areas: TOD Master Plan, prepared April 2012.
19. Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared by the Sonoma County Regional Climate Protection Authority, July 2016.
20. EnviroStor report for 529 Madison St, Petaluma, CA Department of Toxic Substances Control, accessed November 2019.
21. Federal Emergency Management Agency's Flood Insurance Rate Map, Map Number 06097C0982G, October 2, 2015.
22. GeoTracker report for 529 Madison St, Petaluma, CA State Water Resources Control Board, accessed November 2019.
23. Groundwater Basin Boundary Assessment Tool, CA Dept. of Water Resources, November 2019.
24. Groundwater Recharge Rate, Basin Characterization Model, US Geological Survey, 2017.
25. MTC Vital Signs website – Regional Peak 24-Hour Average Fine Particulate Concentrations, November 2019.
26. Petaluma Valley Groundwater Sustainability Agency, Draft Petaluma Valley Groundwater Sustainability Plan, 2019.
27. Petaluma Historical Habitats, Petaluma River Historical Ecology, San Francisco Estuary Institute, 2018.
28. Petaluma Housing Element 2015 – 2023, Attachment 1.
29. Preliminary Drainage Analysis prepared by Steven J. Lafranchi & Associates, March 2019.
30. Preliminary Maximum Applied Water Allowance Calculations for Typical Lots 1, 2, 11, 12, 15, 16, 19, 24 & 25, Andrea Chapman - Landscape Architect, March 20, 2019.
31. Preliminary Stormwater Control Plan for Regulated Project UGI Riverbend, prepared by Steven J. Lafranchi & Associates, Inc., April 27, 2020
32. Preliminary Water Distribution Calculations, Steven J. Lafranchi & Associates, Inc., March 15, 2019
33. Petaluma River Access and Enhancement Plan, May 1996.
34. Petaluma Fire Prevention Bureau, Very High Fire Hazard Severity Zones, June 2007.
35. Permit Sonoma's Williamson Act Properties 2017.
36. Photometric Plan, Associated Lighting Representative, August 28, 2019.
37. Site Plan Drawings for 529 Madison Street, prepared by Steven J. Lafranchi & Associates, Inc, October 15, 2019.
38. Sonoma County Water Agency Stream Maintenance Program Zone 2A map, November 2019.
39. Sonoma-Marin Area Rail Transit DEIR, November 2005.
40. Sonoma-Marin Area Rail Transit SEIR, March 2008.
41. Sonoma County Draft Vital Lands Initiative, December 2019.

6. MITIGATION MONITORING AND REPORTING PROGRAM

City of Petaluma, California

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

Project Name: **Riverbend**

File Number: **File No. PLMA 19-0003**

Address/Location: 529 Madison Ave, Petaluma, CA
(APN: 007-041-006)

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.

RIVERBEND MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
AIR QUALITY				
AQ-1: Latest BAAQMD recommended Best Management Practices (BMPs) to control for fugitive dust and exhaust during all construction activities shall be incorporated into all demolition and construction plans to require implementation of the following: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper working condition prior to operation. 8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	• Measures shall be included in project design and construction documents. • Periodic inspections during construction to ensure that measures are in place.	• Applicant • Planning Division • Building Division		
BIOLOGICAL RESOURCES				

RIVERBEND MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
BIO-1: For the protection of special-status birds, and native nesting birds protected by the MBTA and the CDFW, project development activities shall occur outside of the bird nesting season, to the extent feasible. If development activities must occur during the nesting season (February 1 – August 31), a qualified biologist shall conduct a nesting bird survey no more than 14 days prior to the commencing the Project activities. The nesting survey shall include an examination of all trees onsite and within 200 feet of the development footprint (i.e., within a zone of influence of nesting birds), not just trees slated for removal. The zone of influence includes those areas outside the project site where birds could be disturbed by earth- moving vibrations and/or other construction-related noise. If the biologist does not identify active bird nests during the surveys, no impacts will occur to birds and work may progress without restriction. If active nests are identified, an appropriately sized temporary buffer around the nest shall be installed under the oversight of a qualified ornithologist/biologist to avoid impacts to nesting birds. The buffer size will be determined by the qualified biologist depending on the bird species, and typically range from 50 feet for small birds and up to 300 feet for raptors. A qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed. No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later and will be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed, and construction may commence in established nesting buffers without restriction.	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW		

RIVERBEND MITIGATION MONITORING AND REPORTING PROGRAM				
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BIO-2: To avoid impacts to pallid bats, a "species of special concern" in the state, a qualified biologist shall conduct a bat survey 15 days prior to the commencement of ground work. If no special-status bats are found during the survey, then construction may begin without restriction. If special-status bat species are found roosting on the project site, the biologist shall determine if there are young present (i.e., the biologist should determine if there are maternal roosts). If young are found roosting in any tree that will be impacted by the project, such impacts shall be avoided until the young are flying and feeding on their own. A non-disturbance buffer installed with orange construction fencing will be established around the maternity site. The size of the buffer zone will be determined by a qualified bat biologist at the time of the surveys. If adults are found roosting in a tree on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door can be placed over the tree cavity for a 48-hour period prior to the tree removal.	• Conduct surveys in accordance with this measure. • Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Qualified biologist • Applicant • Planning Division • CDFW		
BIO-3: To offset fill to 0.04 acres of Waters of the United States and the State, the applicant shall purchase mitigation credits at a 1:1 mitigation ratio or as otherwise required by the Army Corps of Engineers and the Regional Water Quality Board. Wetland mitigation credits shall be purchased from a Corps and RWQCB-approved mitigation bank. The Burdell Ranch Wetland Conservation Bank Service Area covers this project site and purchase from this bank or other acceptable bank as determined by the Corps and RWQCB could satisfy this mitigation requirement. In lieu of purchasing wetland mitigation credits, a Wetland Mitigation and Monitoring Plan (WMMP) at a 2:1 mitigation ratio shall be prepared by a qualified restoration ecologist and presented to the City/Corps/RWQCB prior to placement of fill in the wetland. The WMMP shall include a description of the impacted wetland, a map of the mitigation site with existing conditions, a description of the new wetland, wetland construction approach, landscape plan, monitoring methods and successful WMMP criteria, contingency measures if success measures are not met, and short-term and long-term	• 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 restoration ecologist • ASACE • RWQCB		

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MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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management and monitoring plans. A conservation easement, as defined by Section 81.5.3 of the California Civil Code, preserving the created wetland in perpetuity and establishing an endowment to fund long-term management, maintenance and monitoring, shall be granted to a qualified entity.				
BIO-4: 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 five protected trees onsite, shall be replaced at a one-to-one trunk diameter basis. Replacement trees shall be at the minimum a 24-inch box size. Replacement trees shall be planted within the Project boundaries to the extent feasible, and the applicant shall pay in lieu fees to cover the cost of labor and materials for offsite replacement.	• Prepare and submit a tree preservation and replacement plan. • Prior to issuance of grading permit.	• Applicant • Qualified arborist • Planning Division		
BIO-5: To protect existing trees that will be preserved, the project applicant shall implement the following measures as set forth in Zoning Ordinance 17.050, Preservation of Existing Trees in Development Proposals: • Plastic or chain link tree protection fencing shall be installed at the driplines of trees to be preserved • A pre-construction meeting shall occur with the tree service to perform pruning in consultation with the arborist to agree on the extent of pruning as warranted • Pruning shall be to the minimum extent necessary for hazard reduction and access, vertical clearance and crown restoration and shall be conducted in accordance with ISA pruning guidelines and SNASI 300 standards • The Project arborist shall be notified 48 hours in advance to be present when grading or trenching will occur within the driplines of trees to be preserved • No parking, storage of materials, disposal of waste, operation of equipment, or other construction activity shall occur within the dripline of trees to be preserved	• 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		

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• Four inches of arbormulch shall be applied to the soil surface within the dripline of trees to be preserved. No arbormulch shall be introduced within the riparian corridor. • The arborist shall take the necessary measures to ensure that Coast live oak (#11), possibly infected with Sudden Oak Death is properly treated and managed to preclude spread of Sudden Oak Death.				
CULTURAL RESOURCES				
CUL-1: To ensure protection and appropriate treatment of archeological resources in the event of inadvertent discovery the following procedures shall be complied with: • Prior to the start of construction activities, a schedule and process to carry out tribal monitoring to be performed by a qualified archeological monitor meeting the Secretary of the Interior's Professional Qualifications for Archeology and/or a Federated Indians of Graton Rancheria (FIGR) representative shall be established. Monitoring shall be performed during project-related earth-disturbing activities and may be adjusted based on inspection of subsurface soils and observed potential to contain intact cultural deposits or materials at the recommendation of a qualified archeological monitor, working in collaboration with FIGR's Tribal Historic Preservation Officer, and in consultation with the City. • The monitor and/or tribal representative shall be permitted to access the construction site, observe activities, and shall be granted authority to issue a stop work order in the event that a potential tribal cultural resource is identified. • A professional archaeologist meeting the Secretary of the Interior's Professional Qualifications for Archeology shall conduct a preconstruction meeting with the site superintendent and contractor(s), equipment operator(s) and others prior to commencement of ground-disturbing activities to familiarize the team with the types of archaeological material that could be encountered and procedures to follow in the event that archaeological deposits are uncovered. Prehistoric archaeological site indicators include: obsidian and chert	• Submit a tribal monitoring schedule and process • Conduct construction in conformance with measures herein. • Notify Professional Archaeologist and Planning Division in the event of potentially significant archaeological resource discovery. • Include measure on project construction and improvement plans.	• Applicant • Qualified archaeologist and/or FIGR representative • Professional Archaeologist • Planning Division		

RIVERBEND MITIGATION MONITORING AND REPORTING PROGRAM				
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flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps). • If archeological deposits are encountered during ground-disturbing activities including, but not limited to excavation, grading and construction, all work within 100 feet of the discovery shall be halted until a qualified archaeologist, who meets the Secretary of the Interior's Standards, is able to inspect the material and provide recommendations for appropriate treatment of the resource including, but not limited to, data recovery excavation, artifact curation, report preparation, and information dissemination to the public. Should a significant archeological resource be identified, a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Where such resources are Native American, Tribal representatives shall be notified and appropriate treatment shall be determined in consultation with Native American tribes. • Upon completion of an assessment and/or evaluation of a potential artifact, the archaeologist shall prepare a report documenting the methods and results of the archaeological assessment/evaluation and provide recommendations for the treatment of the find. The report shall document compliance with mitigation, monitoring efforts, and include daily monitoring log. The report shall be submitted to the City of Petaluma, the Northwest Information Center, and Native American Tribe(s), as appropriate, within 60 days following completion of construction activities.				
GEOLOGY AND SOILS				

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MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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GEO-1: Prior to issuance of a grading permit, a project level soils and geological report shall be submitted to the City Engineer for review pursuant to the City of Petaluma's Ordinance #1576, Title 17, Chapter 17.31.180. The soils report shall detail the strength and characteristics of the soils onsite and provide conclusions and recommendations for grading procedures, foundations, and design criteria as appropriate. As determined by the City Engineer and/or Chief Building Official, all applicable recommendations set forth in the in soils report prepared for the subject property, including, but not limited to grading, excavation, foundations systems, and compaction specifications shall be incorporated. Final grading plan, construction plans, and building plans shall demonstrate that recommendations set forth in the geotechnical reports 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.	• Incorporate geotechnical recommendations into project construction and improvement plans. • The project geotechnical engineer shall inspect the construction work and shall certify to the City, prior to issuance of a certificate of occupancy that the improvements have been constructed in accordance with the geotechnical specifications.	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division		
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		
LAND USE AND PLANNING				

RIVERBEND MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
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LU-1: High-efficiency particulate filtration systems shall be installed in residential heating, ventilation and air-conditioning (HVAC) systems for residences within 100 feet of the Clover Stornetta facility. The project shall implement the following measures to minimize long-term annual Diesel Particulate Matter exposure for incoming residential occupants: 1. Install forced air mechanical ventilation devices in new residences. Air filtration devices shall be rated MERV13 or higher for residential portions within 100-feet of the site. To ensure adequate health protection to sensitive receptors (i.e., residents), this mechanical ventilation system will circulate fresh filtered air into the dwelling units. 2. In order to effectively implement this measure, an ongoing maintenance plan for the buildings' HVAC air filtration system shall be required. 3. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.	• Measures shall be included in project design and construction documents. • Submit a copy of use agreement and property documents in compliance with these measures.	• Applicant • Planning Division • Building Division		
LU-2: To reduce exterior noise levels at or below 65 dBA in the rear yards along the project's shared property line with Clover Stornetta facility, a noise barrier with a minimum height of eight feet above the finish grade level shall be designed and installed pursuant to the recommendations presented in the Environmental Noise Assessment. The noise barrier shall be built primarily without gaps except at the base of the structure to allow drainage but shall not be composed of more than 0.5% of the total area. The noise barrier shall be constructed with a minimum surface weight of 3.0 lbs. per square foot to be verified by a qualified acoustical engineer. The noise barrier shall be maintained on an ongoing basis to ensure that it continues to meet its design performance standard. One possible design of the noise barrier would be a double-sided wood fence with butted vertical fence boards on each side with a continuous layer of ½ inch plywood. Other acceptable materials to achieve	• Measures shall be included in project design and construction documents.	• Applicant • Planning Division • Building Division		

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sufficient noise reduction may include masonry block, or pre-cast concrete panels.				
LU-3: To reduce interior noise levels to at or below 45 dBA, two story residences on lots 20 through 27 and lot 29 (along the shared property line with the Clover Stornetta facility) shall be designed as follows to ensure that the noise control treatments achieve the required noise reduction standards consistent with the Petaluma General Plan: 1. Equipped with some form of forced air mechanical ventilation system, satisfactory to the City's building official. 2. As necessary provide sound-rated windows and doors to maintain interior noise levels at or below 45 dBA CNEL. The degree of sound rating will vary depending on the final design of the building (relative window area to wall area) and the design of the exterior wall assemblies. Based on the exterior noise level and typical residential construction, second-floor windows and doors facing or with a view of the Clover Stornetta facility may require sound transmission class (STC) rating between 28 and 32. 3. Specific determination of exterior wall assembles and window/door SCT rating shall be conducted on a unit by unit basis during the project design. Results of the determination shall be prepared by a qualified acoustical engineer and shall be submitted to the City along with building plans and approved prior to issuance of a building permit.	• Measures shall be included in project design and construction documents.	• Applicant • Planning Division • Building Division		
NOISE				
NOI-1: The following Best Construction Management Practices shall be implemented to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance: 1. Limit construction hours to between 8 a.m. and 5:30 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday. Construction activities shall be prohibited on Sundays and State, Federal and Local Holidays. 2. Delivery of materials and equipment to the site and truck traffic coming to and from the site is restricted to the same construction hours specified above.	• Conduct construction in conformance with measures herein. • Incorporate into project design and construction documents.	• Applicant • Planning Division • Building Division		

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3. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. 4. Unnecessary idling of internal combustion engines shall be strictly prohibited. 5. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors. 6. Acoustically shield stationary equipment located near residential receivers with temporary noise barriers. 7. Utilize "quiet" air compressors and other stationary noise sources where technology exists. 8. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities. 9. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from existing residences. 10. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site. 11. The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance. 12. Notify all adjacent residences within a 500-foot radius of the site, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses. 13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance	• Maintain delivery, hauling and construction in accordance with measure. • Provide notice to surrounding properties in accordance with measure. • Applicant shall provide for periodic inspection during construction to ensure that measures are in place.			

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coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.				
Tribal Cultural Resources				
TCR-1: Implement CUL-1				