CORONA STATION RESIDENTIAL

INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION

PREPARED BY:

CITY OF PETALUMA
11 ENGLISH STREET
PETALUMA, CA 94952

October 16, 2019

INITIAL STUDY - CHECKLIST	
Project Title:	Corona Station Residential
Lead Agency:	City of Petaluma 11 English Street Petaluma, CA 94952
Contact person and phone number:	Heather Hines, Planning Manager hhines@cityofpetaluma.org (707) 778-4316
Project Location:	The project site is an approximate 6.5-acre property located at 890 North McDowell Boulevard in the City of Petaluma, Sonoma County, CA (APN 137-061-019)
Project Sponsor:	Lomas-Corona Station LLC 13848 Weddington Street Sherman Oaks, CA 91401
Property Owners:	Todd Kurtin Lomas-Corona Station LLC 13848 Weddington Street Sherman Oaks, CA 91401
General Plan Land Use:	Mixed Use (MU)
Zoning:	MU-1B (Mixed Use 1B)
Description of project:	The project includes the subdivision of an ~6.5-acre property into a 5.23-acre parcel for development of residential units and a 1.27-acre remainder parcel for dedication to the Sonoma-Marin Area Rail Transit (SMART). A zoning text amendment to conditionally permit single-family dwellings in the MU-1B zoning district when adjacent to the rail. The project consists of the development of 110 residential units including a density bonus and one development incentive/concession, two access driveways from North McDowell Boulevard, landscaping, parking, a bus shelter, lighting, ancillary improvements. The 1.27-acre remainder parcel will be sold to Sonoma-Marin Area Rail Transit (SMART) for future development as part of a second Petaluma train station. Development on the 1.27-acre remainder parcel is not currently proposed and is not analyzed as part of this project.
Surrounding Land Uses and Setting:	The project site is bounded by the SMART corridor to the north, a segment of Corona Creek to the east, North McDowell Boulevard to the south and the 1.27-acre remainder parcel to the west with Corona Road beyond. Land uses adjacent to the subject property include residential uses to the north (Brody Ranch currently under construction), east, and south; and commercial/industrial uses to the west.
Other Public Agency Approvals:	Regional Water Quality Control Board, San Francisco Bay Water Board, Sonoma County Water Agency, Sonoma County Department of Health Services, and California Public Utility Commission.
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?	The Federated Indians of Graton Rancheria (FIGR) did not request consultation within the statutory timeframe provided by Public Resources Code §21080.3.1. Formal AB 52 notification was sent to FIGR on December 12, 2018. As of October 2019, the City of Petaluma has not received any response from FIGR.

CORONA STATION RESIDENTIAL

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ACRONMYMS AND ABBREVIATIONS

AFY	ACRE FEET A YEAR
AIR BASIN	SAN FRANCISCO BAY AREA AIR BASIN
APN	ASSESSOR PARCEL NUMBERS
AQP	AIR QUALITY PLAN
ARB	AIR RESOURCES BOARD
BAAQMD	BAY AREA AIR QUALITY MANAGEMENT DISTRICT
BMP	BEST MANAGEMENT PRACTICE
CALEEMOD	CALIFORNIA EMISSIONS ESTIMATOR MODEL
CBC	CALIFORNIA BUILDING CODE
CCR	CALIFORNIA CODE OF REGULATIONS
CDFW	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
CEQA	CALIFORNIA ENVIRONMENTAL QUALITY ACT
CIP	CAPITAL IMPROVEMENT PROGRAM
CORP	ARMY CORPS OF ENGINEERS
CNEL	COMMUNITY NOISE EQUIVALENT LEVEL
CNPS	CALIFORNIA NATIVE PLAN SOCIETY
CRHR	CALIFORNIA REGISTER OF HISTORICAL RESOURCES
DBA	A-WEIGHTED DECIBEL
DEIR	DRAFT ENVIRONMENTAL IMPACT REPORT
DPM	DIESEL PARTICULATE MATTER
DTSC	DEPARTMENT OF TOXIC SUBSTANCE CONTROL
EIR	ENVIRONMENTAL IMPACT REPORT
FEIR	FINAL ENVIRONMENTAL IMPACT REPORT

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

1. INTRODUCTION AND OVERVIEW

This Environmental Checklist for the proposed Corona Station Residential 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. This Initial Study is also intended to provide the CEQA-required environmental documents 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 identifies potentially significant effects, but:

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

Therefore, as the lead agency, the City of Petaluma has prepared a Mitigated Negative Declaration.

City of Petaluma General Plan

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

- Reflects a commitment on the part of the City Council and their appointed representatives and staff to carry out the Plan;
- Outlines a vision for Petaluma's long-range physical and economic development and resource conservation; enhances the quality of life for all residents and visitors; recognizes that human activity takes place within the limits of the natural environment; and reflects the aspirations of the community;
- Provides strategies and specific implementing policies and programs that will allow this vision to be accomplished;
- Establishes a basis for judging whether specific development proposals and public projects are in harmony with Plan policies and standards;
- Allows City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve and enhance critical environmental resources, and minimize

impacts and hazards; and

- Provides the basis for establishing and setting priorities for detailed plans and implementing programs, such as Development Codes, the Capital Improvement Program (CIP), facilities and Master Plans, redevelopment projects, and the Urban Growth Boundary (UGB).

City of Petaluma General Plan Environmental Impact Report (EIR)

The General Plan EIR reviewed potentially significant environmental effects resulting from plan implementation and developed measures and policies to mitigate impacts. Nonetheless, significant and unavoidable impacts were determined to occur under the General Plan. Therefore, the City adopted a statement of overriding considerations, which balance the merits of approving the plan despite the significant environmental effects. The effects identified as significant and unavoidable in the General Plan EIR are:

- Increased motor vehicle traffic which would result in unacceptable level of service (LOS) at six intersections covered in the Master Plan: McDowell Boulevard North/Corona Road, Lakeville Street/Caulfield Lane, Lakeville Street/East D Street, Petaluma Boulevard South/D Street, Sonoma Mt. Parkway/Ely Boulevard South/East Washington Street, and McDowell Boulevard North/Rainier Avenue.

- Traffic related noise at General Plan build-out, which would result in a substantial increase in existing exterior noise levels that are currently above City standards.

- Cumulative noise from proposed resumption of freight and passenger rail operations and possible resumption of intra-city trolley service, which would increase noise impacts.

- Air quality impacts resulting from General Plan build-out to population levels that could conflict with the Bay Area 2005 Ozone Strategy. (This regional air quality plan has since been replaced by the 2017 Clean Air Plan, which is further discussed in Sections 3.3 Air Quality and 3.7 Greenhouse Gases.)

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

This environmental document tiers off of the General Plan EIR (SCH NO. 2004082065), which was certified on April 7, 2008, 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 http://cityofpetaluma.net/cdd/plan-general-plan.html.

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

North McDowell Boulevard Subarea

The North McDowell Boulevard subarea lies between Highway 101, the Plaza and Plaza North Shopping centers, North McDowell Boulevard, the railroad tracks, and Petaluma's Urban Growth Boundary at the northeast corner of the community. It provides two gateways into Petaluma, through Old Redwood Highway and Highway 101. Along with Sonoma Mountain Parkway/Ely Boulevard South, McDowell Boulevard itself is a primary north-south connector for the eastern portion of Petaluma. In general, heavy traffic volumes, large parcels, lack of continuous sidewalks, and introversion of its developments make most of North McDowell more amenable to the car than to the walker or cyclist. Commercial and industrial uses dominate the North McDowell Boulevard Subarea. Highway-oriented commercial uses, such as hotels, restaurants, retail stores and auto service stations, are located adjacent to the Highway 101/Old Redwood Highway interchange. Business park complexes, featuring office and light industrial

uses, are clustered along Old Redwood Highway and McDowell Boulevard. The North McDowell Boulevard subarea also contains a significant portion of the city's senior housing. South of Corona Road, four mobile home parks and one apartment complex are located along North McDowell Boulevard, providing affordable living for Petaluma's seniors and families.

The Corona Station Residential project site is located within the central portion of the North McDowell Boulevard subarea.

Corona Ely Specific Plan

In 1989 the City of Petaluma adopted the Corona-Ely Specific Plan (CESP) to facilitate the annexation of approximately 675 acres of what were then principally agricultural lands. The CESP provides land uses and densities, transportation, neighborhood design, and public amenities in the City's northwest quadrant, extending to Sonoma Mountain Parkway from E. Washington and north to Corona Road. The Corona-Ely Annexation No. 1 occurred in 1989 and implemented the Specific Plan. Development of the CESP area occurred over the past 27 years such that today very few vacant/ underdeveloped parcels remain.

The proposed Corona Station Residential project site is located within the Corona-Ely Specific Plan (CESP) on one of the few remaining undeveloped parcels.

Station Area Master Plan (SMART)

The City adopted the Station Area Master Plan in July 2013 to promote transit-oriented development by capitalizing on existing employment centers, commercial activities, and facilitating the complementary development of housing and job generating uses in close proximity to commuter rail services. The Station Area Master Plan endeavors to promote walkable and livable environments adjacent to the Downtown Station Area and Corona Road Station Area and encourage an integrated development strategy that incorporates the Sonoma-Marin Area Rail Transit (SMART) rail system.

The proposed Corona Station Residential project site is located immediately south of the SMART corridor and adjacent to the planned Petaluma North (Corona) Station.

1.1 ENVIRONMENTAL SETTING

Regional Setting

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

Petaluma's Urban Growth Boundary (UGB) defines the limits within which urban development may occur and encompasses approximately 9,911 acres. The UGB was implemented in 1987 (as the Urban Limit Line), formally adopted as the UGB in 1998 via Measure I and will expire in 2025 without subsequent action. The General Plan 2025 and EIR evaluated potential impacts associated with existing and proposed development within the UGB. The project site is located within the UGB and has been used for industrial uses (feed mill) and truck fueling, repair, sandblasting, and painting operations in the past. The project's location within the City of Petaluma and surrounding region is shown in **Figure 1: Regional Location**.

Vicinity Setting

The project site is in the northwestern portion of Petaluma, adjacent to the municipal boundary with the County of Sonoma. It is in the Corona Road Station Area of the Petaluma Station Area Master Plan and is identified therein as a "Opportunity Site" that is intended to be redeveloped with transit oriented development. The project site is bound by the Sonoma Marin Area Rail Transit (SMART) rail line to the north, a segment of Corona Creek to the

east, North McDowell Boulevard to the south, and Corona Road to the west. The segment of Corona Road to the west forms the municipal boundary between the City of Petaluma and County of Sonoma.

The project site vicinity is located in an area that transitions from rural farming and industrial uses from the west to urbanized residential subdivisions to the north, east and south of the site. Corona Creek, a blue line intermittent stream, with a narrow riparian corridor is located immediately to the east. **Figure 2: Project Vicinity** provides an aerial view of the project site vicinity.

The City of Petaluma 2015-2023 Housing Element, prepared December 2014, identifies the project site as Site #3 on the City of Petaluma Residential Land Inventory Opportunity Sites, Appendix E. As described in the Housing Element, sites classified as mixed-use and that are underutilized, such as the project site (Site #3), represent the greatest potential for the development of affordable housing to low- and moderate-income households. The Housing Element identifies a development potential of 105 units at the project site (Site #3).

Project Site

The property located at the northeast corner of the intersection of North McDowell Boulevard and Corona Road, consists of one parcel (APN 137-061-019), and is approximately 6.5 acres in size. Land uses adjacent to the subject property include residential uses to the north (Brody Ranch currently under construction), east, and south; and commercial/industrial uses to the west. The site is immediately adjacent to the SMART corridor, which extends the length of the northern property line.

The project site is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. Vegetated areas, largely of ruderal vegetation, are limited to strips of land adjacent to Corona Road, North McDowell Boulevard, the SMART railroad at the site northern boundary, and Corona Creek to the east. The terrain of the project site is flat with a 0.5% slope across the property, with higher elevations in the north and lower elevations in the south. Other than a small cluster of unprotected trees located at the northcentral portion of the site and the trees associated with the Corona Creek riparian corridor, there are no trees onsite.

The project site was historically used for industrial uses (feed mill) and truck fueling, repair, sandblasting, and painting operations. In December 2016, the project site contained several buildings; however, the buildings, building foundations, and truck scale were demolished on various dates between May 9 and June 19, 2018.[1] The project site is currently undergoing remediation for soil and groundwater impacts from past uses on the subject property (see Section 4.9 Hazards/Hazardous Materials for further details).On September 3, 2019, a stockpile permit (No.19-14-22) for the property to receive approximately 5,000 cubic yards of soils was issued for property and materials were subsequently deposited onsite.

General Plan and Zoning

The project site exhibits a General Plan land use designation of Mixed Use (**Figure 3: General Plan Land Use**). The project site is currently zoned as MU-1B (Mixed Use 1B), as shown in **Figure 4: Zoning**.

A portion of the project site is within the 100-year floodplain (Zone AE) of the Petaluma River, and has the overlay land use designation of FP-C (Flood Plain-Combining District), as defined by Section 6.040 of the IZO. This portion of the site is subject to the applicable policies and provisions of Chapter 6 of the IZO pertaining to floodplains. In particular, Sections 6.070.B and 6.070.D are applicable to the proposed project.

1.2 PROJECT DESCRIPTION

The project includes the subdivision of a 6.5-acre parcel into a 5.23-acre parcel for development of the residential units and a 1.27-acre remainder parcel. The project would construct 110 residential units, including two driveways from North McDowell Boulevard, landscaping, parking, a bus shelter, lighting, and ancillary improvements. Frontage improvements along North McDowell Boulevard and a crosswalk across North McDowell Boulevard are also part

[1] Soil Excavation Report, 890 North McDowell Boulevard and 320 Corona Road, prepared by Pinnacle Environmental, Inc., August 7, 2018.

of the proposed project. The project requires a zoning text amendment for the MU-1B zone to conditionally permit single-family dwelling units for residential projects located adjacent to the rail. The project's site plan is shown in **Figure 5: Site Plan** and **Appendix A** contains the Project's Plan Set including civil, architectural, and landscaping.

The following actions are required of the City of Petaluma to authorize this proposal: (1) Zoning text amendment for MU-1B to allow single-family dwellings with a use permit adjacent to railroad; (2) Development Agreement ; (3) Density Bonus with a concession for to exceed the maximum building height (4) Tentative Subdivision Map; (5) Conditional Use Permit for single-family residential in MU-1B district adjacent to SMART rail; and (6) Site Plan and Architectural Review (SPAR) approval for the site, building and landscaping design details.

Residential Units

The project includes the construction of 110 single-family residential units, 3 stories in height, with attached 2-bay garages. The maximum building heights will range from 32'8" to 34'7". As proposed of the 110 units 65 will be attached single-family dwelling units and 45 will be detached single family dwelling units. The homes vary in size from approximately 1,570 to 1,855 square feet (not including garages). The 65 attached single-family dwelling units will be located in the western portion of the site adjacent to the planned Petaluma North (Corona) Station and the detached single-family dwelling units will be located in the eastern portion of the site, set back approximately 60 feet from the Corona Creek top of bank.

The architectural design reflects traditional Spanish, Craftsman, and Farmhouse styles that would be interspersed throughout the project site. Materials include cement plaster, horizontal, lap, and board and batten siding, stucco, and stone veneer. Roofing materials include composition roofing and concrete S-tile. The front and rear elevations of all units will contain exterior lighting fixtures.

Density Bonus

Fifteen percent of the units are proposed for inclusionary housing, including 10% available to moderate income households and 5% available to low income households. Approval of this proposal to meet the City's inclusionary housing ordinance, contingent on approval of alternative compliance. Provision of 10% of the units at the moderate-income level qualifies the project for a 5% density bonus and one development concession. Government Code Section 65915 provides an opportunity for the project to utilize the reduced parking standard. An exception to the allowed building height is a preapproved concession in the Density Bonus Ordinance. The project applicant is requesting the reduced parking requirement and a concession for exceedance of the maximum building height.

Fencing

The Conceptual Landscape Plan identifies the locations and types of fences, gates and sound walls to be installed throughout the project site. The types of fencing include: acoustic good neighbor fence; acoustic wood gate; privacy fence; wood and wire view fence; tube steel fence; and precast concrete split rail fence. The wood and wire mesh fence would include construction-grade redwood and gauge wire mesh fencing. Tube steel fencing will be installed along the northern boundary of the subject property, adjacent to the SMART rail line, from Lot 25 to the open space area, and north of the Corona Creek buffer area. Acoustic fencing and gates will be installed along North McDowell Boulevard to protect private outdoor areas of the proposed single-family detached residences. The acoustic fence would be up to 7 feet in height and constructed with boards and plywood. The acoustic wood gates would have a maximum height of 6 feet and be made of construction-grade redwood or cedar.

Landscaping and Lighting

The Conceptual Landscape Plan includes trees, shrubs, groundcover, and grasses. The plan also specifies a planting pallet proposed to be installed onsite including within the Corona Creek buffer area and the bioretention areas. Trees and other landscaping will be planted along the project site's frontage with North McDowell Boulevard and along the northern boundary line, adjacent to the SMART rail line. Trees and other landscaping will be planted along the driveways, between the proposed residences, and within the Corona Creek buffer area, bioretention areas, and open space area. With the exception of the Coast Redwood, which is a high water user, the remainder of the proposed planting species are very low to moderate water users.

Bollards will be located adjacent to the northbound North McDowell Boulevard sidewalk to provide sidewalk lighting.

Illuminated bollards located along the North McDowell sidewalk will have regular spacing (6' between bollards) for the full length of McDowell. Bollard lighting is also proposed internally throughout the project site along pathways and within courtyards.

Site Access and Circulation

The project site is currently accessible from gravel driveways off Corona Road and North McDowell Boulevard. Following construction, the project will be accessed from one of two driveways off North McDowell Boulevard. Parking will be provided onsite within 2-bay garages, one for each home, and approximately 32 guest stalls provided throughout the project site.

Along North McDowell Boulevard, the proposed project includes improvements to the existing sidewalk, curb cuts to accommodate new access driveways, and a bus pull out with shelter, two benches, and bike racks. The bus shelter will be installed consistent with City standards. Internal pedestrian paths throughout the site and a pedestrian pathway connection to the SMART rail station, will also be installed. The project will install an eastbound left-turn lane on North McDowell Boulevard providing left in access to the easterly driveway. The new left turn lane would extend 120 feet and would require the removal and reconstruction of a portion of the existing landscaped median located within North McDowell Boulevard.

As conditioned, the project will install frontage improvements along North McDowell Boulevard to provide an off-street Class I bike facility and an offsite crosswalk. The off-street Class I bike facility consists of an approximately 10-foot-wide shared bike and pedestrian path extending along the Project site frontage of North McDowell Boulevard. The Class I facility will be grade separated from the roadway and a narrow planting strip will provide further separation from the roadway. A crosswalk will be installed across North McDowell Boulevard at Michael Drive (main entry to the Youngstown Mobile Home Park). A High Intensity Activated Crosswalk (HAWK) system is proposed for the crosswalk, which provides an overhead arm supporting beacon lights facing both directions, signage notating "Crosswalk Stop on Red" and "Pedestrian Crossing," on-street crosswalk striping, and a pedestrian pushbutton.

As conditioned, the project includes internal pathways for pedestrian and bicyclist with connectivity to existing and planned trail facilities and the adjacent planned Petaluma North (Corona) Station. Internal pathways are provided via sidewalks located along the perimeter of buildings and through courtyards. Connectivity to the planned Multi-Use Path that will be installed within the SMART corridor, on the southside of the railway will be accessible at multiple points from within the project site. Bicycle parking will be provided onsite. A minimum of two inverted U bike racks, or approved alternative, will be provided per courtyard. In addition, the project includes wall or ceiling mounted bike hooks in each garage and throughout the project site.

Utilities

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

Stormwater runoff generated from the new buildings and other impervious surfaces would be collected and routed to landscaped and bio-retention areas throughout the site, allowing for treatment and infiltration. Stormwater would be routed to new storm drains within the project site and conveyed to the existing storm drain system in North McDowell Boulevard.

Overhead electric powerlines extend along the southside of North McDowell Boulevard in the vicinity of the project site. Pacific Gas and Electric (PG&E) provides electricity and natural gas services to the project site. As conditioned, the project will be fully electric and will preclude natural gas. Solar will be provided onsite and electric vehicle plugs will be installed within all garages.

Site Preparation and Construction

Development of the proposed project is presumed to occur over an approximately 15-month construction period and will commence with site preparation and grading. Site preparation will involve grubbing to remove vegetation and the small cluster of trees located in the center portion of the site. Site preparation also includes removal of existing gravel surfaces, remnant foundations, and any other structures. Grading activities will result in the cut of approximately 600 cubic yards of soil and the fill of approximately 6,000 cubic yards of soil. As mentioned above, the project site currently contains a stockpile of approximately 5,000 cubic yards of soils, as such additional import of soil is expected to be limited to approximately 400 cubic yards. Grading will achieve level topography to support building foundations and infrastructure.

Following completion of grading activities, infrastructure improvements and building foundations will be constructed. Utilities, storm drains and bio-retention basins will be installed. As all public utilities currently extend to the project site, improvements will be limited to the installation of new laterals and tie-ins to connect to the existing water, sewer, and power in place within North McDowell Boulevard. Frontage improvements along North McDowell Boulevard will be installed, including improvements to the existing sidewalk, a grade separated Class I bike facility, installation of the bus shelter, landscaping and signage.

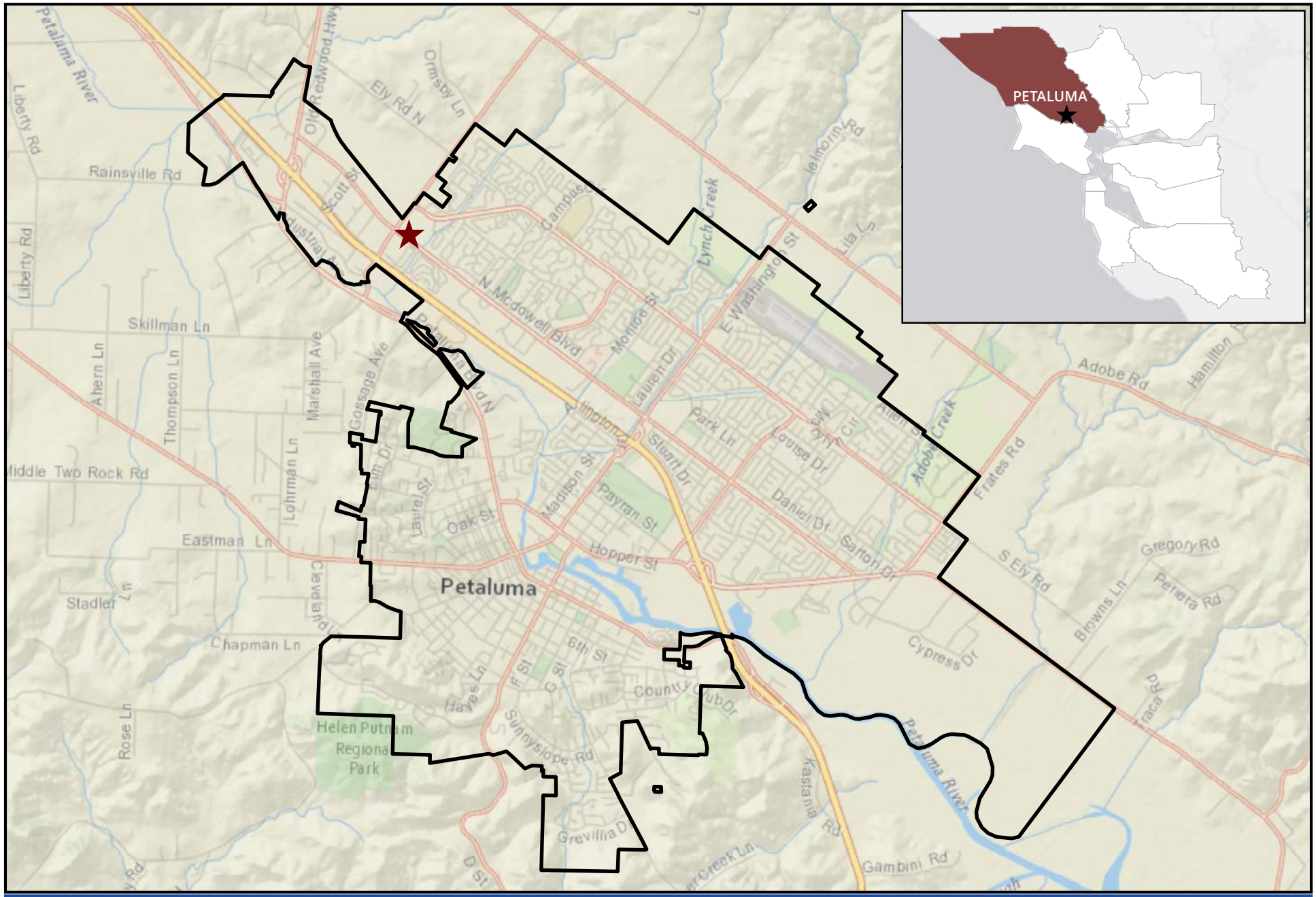
Construction equipment expected to be utilized includes tractors, backhoes, haul trucks, graders, pavers, cranes, water trucks and other heavy-duty construction equipment. Staging of construction equipment and materials will occur within the footprint of the project site.

Approvals From Other Regulatory Agencies

The proposed Corona Station Residential project requires approval from the following regulatory agencies:

- Regional Water Quality Control Board (RWQCB), Individual NPDES Permit
- Sonoma County Water Agency

FIGURE 1



CORONA ROAD RESIDENTIAL: REGIONAL LOCATION

0 0.425 0.85 1.7 Miles

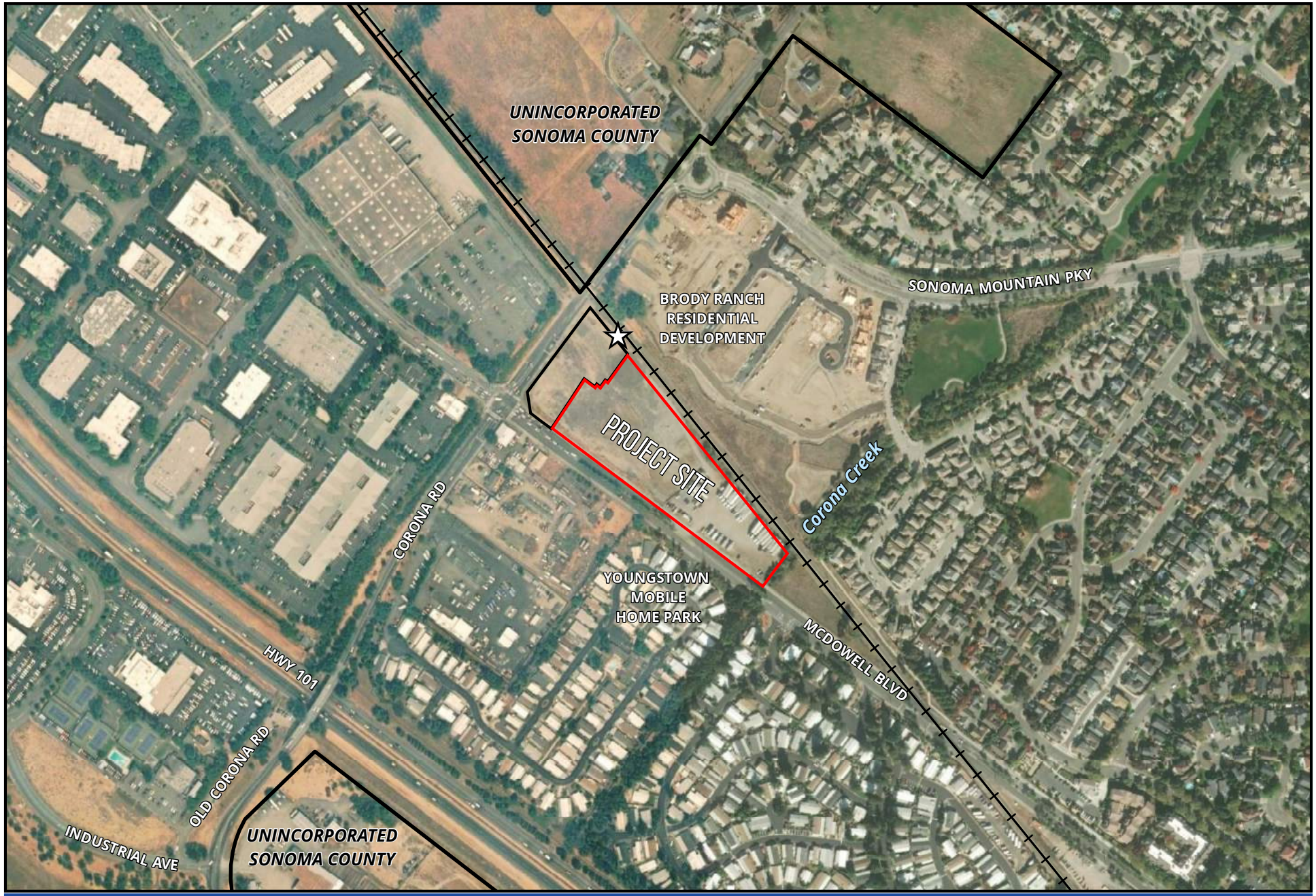
Data source: City of Petaluma; Sonoma County GIS; ESRI Basemap

PROJECT SITE

CITY OF PETALUMA

SONOMA COUNTY

FIGURE 2



CORONA ROAD RESIDENTIAL: PROJECT VICINITY

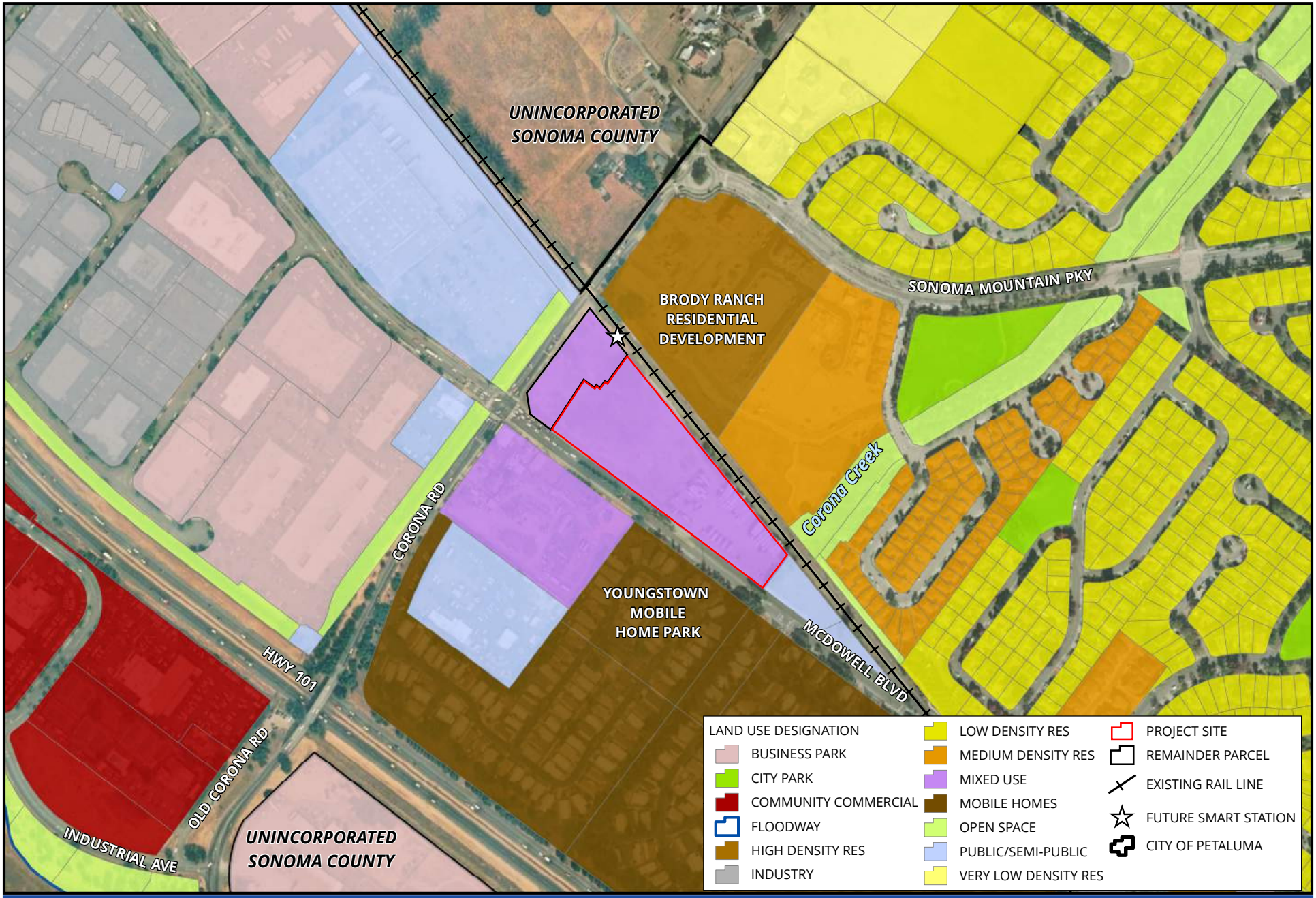
0 230 460 920 Feet

N

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

PROJECT SITE
REMAINDER PARCEL
EXISTING RAIL LINE
FUTURE SMART STATION (PETALUMA NORTH)
CITY OF PETALUMA

FIGURE 3



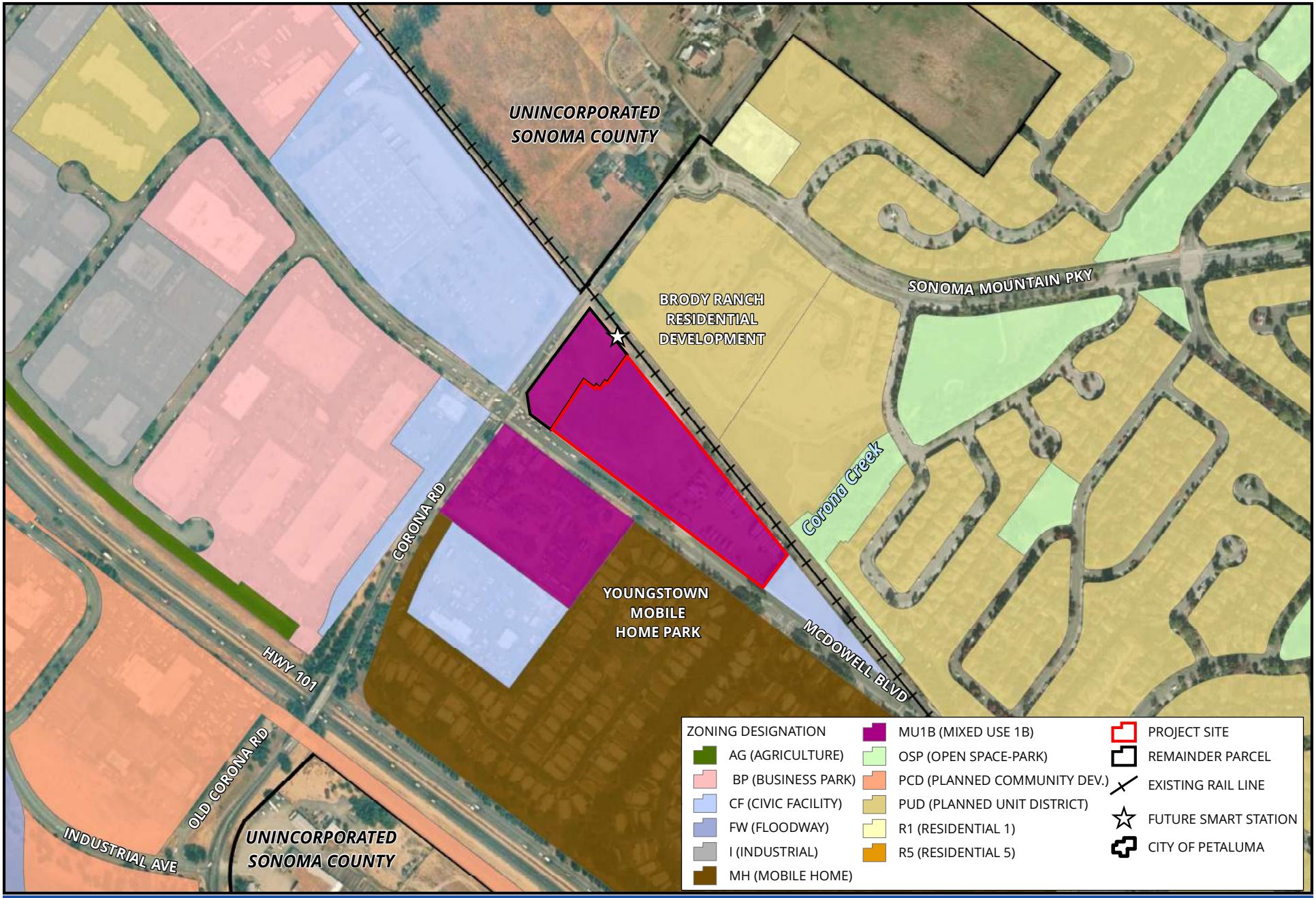
CORONA ROAD RESIDENTIAL: GENERAL PLAN LAND USE

0 230 460 920 Feet

N

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

FIGURE 4



CORONA ROAD RESIDENTIAL: ZONING

0 230 460 920 Feet

N

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

FIGURE 5

CORONA ROAD RESIDENTIAL: SITE PLAN

0 60 120 240 Feet

EMERGENCY VEHICLE ACCESS
CURBCUT REMOVED
PROPOSED BUS PULLOUT

Data source: City of Petaluma; Sonoma County GIS; VanderToolen Associates, Plan Sheet L-1 and L-2; Annotations by M-Group per Traffic Study; ESRI Basemap

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2. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Less Than Significant Impact with Mitigation" as indicated by the checklist on the following pages. There are no environmental factors identified as a “Potentially Significant Impact.”

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

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

On the basis of this initial evaluation:

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

_____ _____

Lead Agency: Olivia Ervin, Environmental Planner **Date**

4. EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

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

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

7) The explanation of each issue should identify:

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

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

4.1 AESTHETICS

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

Sources: City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); and Site Plans, Architectural Plans, and Landscape Plans, 2019.

Aesthetics Setting

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

The project site is located in the City's Urban Growth Boundary (UGB) and within the North McDowell Boulevard planning subarea. The North McDowell Boulevard subarea is dominated by commercial and industrial uses. Highway-oriented commercial uses, such as hotels, restaurants, retail stores and auto service stations, are located adjacent to the Highway 101/Old Redwood Highway interchange. Business park complexes, featuring office and light industrial uses, are clustered along Old Redwood Highway and McDowell Boulevard. South of Corona Road, the North McDowell Boulevard subarea contains a significant portion of the city's senior housing.

The project site is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. Vegetated areas, largely of ruderal vegetation, are limited to strips of land adjacent to Corona Road, North McDowell Boulevard, the railroad, and Corona Creek. Other than a small cluster of voluntary trees in the center portion of the site, the site is void of trees. None of the trees proposed from removal are considered 'protected trees' under Petaluma's Implementing Zoning Ordinance Chapter 17 (Tree Preservation).

Corona Creek abuts the eastern portion of the property. This reach of Corona Creek extends from the railroad crossing to North McDowell Boulevard and is an engineered channel maintained by the Sonoma County Water Agency. At the project site, Corona Creek has a length of approximately 138 feet and a width of approximately 40

feet between the tops of bank.[2]

Aesthetics Impact Discussion

4.1 (a) (Scenic Vista) No Impact: The 2025 General Plan EIR identifies vistas of Sonoma Mountain and the Petaluma Valley as significant visual resources with notable viewpoints seen from Washington Street Overpass, McNear Peninsula and Rocky Memorial Dog Park. The proposed Corona Station Residential project is not located in the immediate vicinity of any of the notable viewpoints and would neither obstruct nor diminish any existing viewsheds. The project is proposed on an underdeveloped parcel located within the bounds of the UGB. Since the site is surrounded on at least three sides by existing "urban" development the project is considered infill. The GP EIR (Page 3.11-5) states that within the built city, infill development would not have a significant effect on the visual quality of the city, because new development will be similar in scale and character to that of existing development and be subject to Site Plan and Architectural Review. The proposed project, constructed pursuant to the applicable zoning standards, will be similar in scale and character to existing residential developments in the project vicinity. Accordingly, the project is not expected to have an impact to any identified scenic vistas.

4.1 (b) (Scenic Resources) No Impact: According to the California Scenic Highway Program, the nearby 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. 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.

While not state or locally designated, the portion of Corona Road located east of the intersection with Sonoma Mountain Parkway, is identified in the Corona Ely Specific Plan (1987) as a being "locally valued for its picturesque, country qualities." The road is further appreciated because it "provides a scenic transition between country and town." As the project site is located south of the Corona Road/Sonoma Mountain Parkway intersection, the proposed project would not directly or indirectly affect the scenic character of the locally identified segment of Corona Road with scenic qualities. Accordingly, the project will have no impact to a designated State Scenic Highway or locally valued Scenic Corridor.

4.1 (c) (Degrade Visual Character or Conflict with Scenic Quality) Less Than Significant Impact: Impact 3.11-3 of the General Plan EIR concludes that infill development (such as the Corona Station Residential project) may potentially degrade the existing visual quality of the city if it substantially departs from the character of surrounding areas and existing development in terms of density, scale, and/or design principles.

As shown in Figure 2 above, the project is surrounded generally by urban development (commercial, industrial and residential land uses) and major arterials (e.g., North McDowell Boulevard and Corona Road) and, catty-corner from the project site, rural residential uses. The project is located within the City's UGB at a site designated by the General Plan as Mixed Use and identified as an opportunity site (#3) in the Housing Element. The project's scale, as proposed, is similar to that of the residential subdivisions located to the north (Brody Ranch) and east of the project site and is consistent with the density envisioned in the General Plan and established in the zoning code.

The Corona- Ely Specific Plan (1987), within which the project site is located, does address the likelihood that future development consistent with the respective land use designations would displace former rural/ agricultural land and replace those former uses with more residential/commercial type uses giving the area a decidedly more "urban" character. The necessity of accommodating development was considered more important than retaining the character of the Specific Plan area in its entirety, and therefore, the EIR prepared for the Corona-Ely Specific Plan (CESP) identified the impact as significant and unavoidable and adopted a statement of overriding considerations. As the project site lacks any characteristics of rural and/or agricultural land uses, the proposed project would not displace rural or agricultural land and there would be no impact due a substantial change in the visual character of the site.

The proposed architectural styles are comprised of traditional Spanish, Craftsman, and Farmhouse elements providing a character similar to newer neighborhoods throughout Petaluma. The proposed architecture does not depart significantly in massing, scale or design principles such that it would degrade the existing visual environment. In addition, the project is not expected to have a significant effect on the city's rural visual character since it is

[2] Stream Maintenance Program Draft EIR, Sonoma County Water Agency, January 2009.

surrounded by residential, commercial and industrial development and thus it will not introduce a new modern development into an otherwise rural area, but rather provide continuity of the existing development trends. Its scale and massing are appropriate for the applicable zoning and land use designation.

The project includes noise barriers to protect private outdoor spaces of residences fronting onto North McDowell Boulevard. The noise barriers, 7 feet in height, consist of L-shaped acoustical fencing that will be constructed with wood or similar materials. Noise barriers along North McDowell Boulevard are proposed as individual features, set back from the roadway, to protect and partially encompass private outdoor spaces. The acoustic wood gates would have a maximum height of 6 feet and be made of construction-grade redwood or cedar. The fences, gates and noise barriers are similar in scale to surrounding development and will be partially obscured by trees and other landscaping that will be planted along the project site's frontage with North McDowell Boulevard.

Compliance with the Implementing Zoning Ordinance's requirement set forth in §24.010.G to obtain Site Plan and Architectural Review from the Planning Commission will further ensure compatibility with the established character in the vicinity. As proposed, the design is consistent with the guiding regulation and is compatible with the existing character and established neighborhoods proximate to the project site. Therefore, the project's impact to the established visual character and quality of the area will be less than significant.

4.1 (d) (Light and Glare) Less Than Significant Impact: The project has the potential to result in new lighting associated with exterior and interior residential lighting, landscaping lighting, and lights from vehicles entering and exiting the project site. New lighting introduced onsite could potentially affect nighttime views in the project area. However, as a condition of approval a photometric plan depicting proposed illumination levels will be required to demonstrate conformance with the standards of IZO §21.040(D). Further, the project is required to conform to Implementing Zoning Ordinance (IZO) §21.040(D)(Glare), which provides standards to prevent indirect and direct glare. Such Standards to reduce light and glare impacts include specifying the maximum illumination, and light location, height, and relationship to structures. Therefore, compliance with IZO §21.040(D) would ensure 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: California Department of Conservation, Farmland Mapping and Monitoring Program 2019.

Agricultural and Forestry Setting

The California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) classifies agricultural land according to soil quality and irrigation status. According to data acquired from the Department of Conservation, FMMP, land classifications within the City consist of Prime Farmland (3 acres), Grazing Land (450 acres), Farmland of Local Importance (585 acres), Other Land (692 acres), and Urban and Built-up Land (7,568 acres). There are no identified forestlands within the UGB. Agricultural resources are prevalent outside of City limits, within the County of Sonoma. An impetus to the establishment of the UGB was to preserve natural resources, agricultural lands, and other open spaces. There are no identified forestlands within the City of Petaluma.

The subject property is located on land designated as Urban and Built-up Land (**Figure B-1** in **Appendix B**). With the exception of the parcel caddy-corner to the subject property which is designated as Farmland of Local Importance, all other land surrounding the project site is designated as Urban and Built-up Land. No forestland designations are present on or near the project site.

Agricultural and Forestry Impact Discussion

4.2 (a-e) (Farmland Conversion, Williamson Act, Forestland/Timberland Conflict) No Impact: The project site does not include any agricultural or forested lands. The project, as proposed, consists of infill development located on a previously developed lot and will not impact prime farmland, unique farmland or farmland of statewide importance. The project will not interfere with Williamson Act contracts or any existing agricultural uses.

In the absence of forested lands there is no potential for the project to conflict with existing forested land zoning 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.

Mitigation Measures: None Required.

4.3 AIR QUALITY

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

Sources: City of Petaluma General Plan 2025 and EIR; Bay Area Air Quality Management District Bay Area 2017 Clean Air Plan; Bay Area Air Quality Management District, CEQA Guidelines, May 2017; and Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, November 19, 2018.

Air Quality Setting

The City of Petaluma is located within the San Francisco Bay Area Air Basin, which is regulated by the Bay Area Air Quality Management District (BAAQMD). Air quality within the Bay Area Air Basin is affected by natural geographical and meteorological conditions as well as human activities such as construction and development, operation of vehicles, industry and manufacturing, and other anthropogenic emission sources. The Federal Clean Air Act and the California Clean Air Act establish national and state ambient air quality standards. The BAAQMD is responsible for planning, implementing, and enforcing air quality standards within the Bay Area Air Basin including the City of Petaluma.

The Bay Area Air Basin is designated as non-attainment for both the one-hour and eight-hour state ozone standards; 0.09 parts per million (ppm) and 0.070 ppm, respectively. The Bay Area Air Basin is also in non-attainment for the PM10 and PM2.5 state standards, which require an annual arithmetic mean (AAM) of less than 20 $\mu g/m^3$ for PM10 and less than 12 $\mu g/m^3$ for PM2.5. In addition, the Basin is designated as non-attainment for the national 24-hour fine particulate matter (PM2.5) standard and will be required to prepare a State Implementation Plan (SIP) for PM2.5. All other national ambient air quality standards within the Bay Area Air Basin are in attainment.

Air quality emissions of carbon monoxide (CO), ozone precursors (ROG and NOx) and particulate matter (PM10 and PM2.5) from construction and operation are evaluated pursuant to the BAAQMD CEQA Air Quality Guidelines established in May 2010[3] and updated in May 2017. With release of the 2017 Bay Area Clean Air Plan (CAP) and the associated EIR, it is expected that updated thresholds and guidelines may be developed in the near term. In the absence of updated guidelines and thresholds, based upon its own judgment and analysis, the City of Petaluma recognizes that these thresholds represent the best available scientific data and has elected to rely on BAAQMD Guidelines dated May 2017 in determining screening levels and significance.[4]

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

TABLE 1: AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NOx	54	54	10
PM10	82	82	15
PM2.5	54	54	10

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

CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)
Fugitive Dust	Construction Dust Ordinance or other BMP	Not Applicable
Single-Source Health Risks and Hazards for New Sources or New Receptors		
Excess Cancer Risk		> 10.0 per one million
Chronic or Acute Hazard Index		> 1.0
Incremental annual average $PM_{2.5}$		> 0.3 µg/m^3
Cumulative Health Risks and Hazards for Sensitive Receptors		
Excess Cancer Risk		> 100.0 per one million
Chronic Hazard Index		> 10.0
Annual Average $PM_{2.5}$		> 0.8 µg/m^3

Source: BAAQMD's May 2017 CEQA Air Quality Guidelines; BMP = Best Management Practices

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM10 = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM2.5 = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and GHG = greenhouse gas.

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

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

Air Quality Impact Discussion

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

The proposed control strategy for the 2017 CAP consists of 85 distinct measures targeting a variety of local, regional, and global pollutants. The CAP includes control measures for stationary sources, transportation, energy, buildings, and agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the CAP. In general, a project is consistent if a) the project supports the primary goals of the CAP, b) includes control measures and c) does not interfere with implementation of the CAP measures. The proposed project would have a less than significant impact due to a conflict with the Clean Air planning efforts since, a) the project supports the goals of the CAP in that it limits

urban sprawl by proposing development within existing urban limits on a previously disturbed site; b) includes control measures to protect air quality during construction by implementing best control measures set forth by BAAQMD; and c) the proposed project would generate air quality emissions well below the BAAQMD criteria pollutant thresholds (see Section 4.3(b) below). Furthermore, the project would introduce 110 residential dwelling units on a 5.23-acre site adjacent to the planned Petaluma North (Corona) Station, which would provide new residents to conveniently utilize light rail. Therefore, project impacts due to a conflict with the regional air quality plan will be less than significant.

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

Construction Activities

During construction activities, the project would generate temporary air pollutant emissions associated with site preparation, ground disturbance, the operation of heavy-duty construction equipment, workers traveling to and from the site, and the delivery of materials. These activities would create temporary emissions of fugitive dust from ground disturbance, and the release of toxic air contaminants, particulate matter, and ozone precursors (ROG and NOx) from combustion of fuel and the operation of heavy-duty construction equipment. **Table 2** provides the estimated levels of ROGs, NOx, PM10, and PM2.5 that will be generated from construction activities including grading, off-hauling of materials, paving and building construction. All criteria pollutants generated by construction are well below BAAQMD thresholds of significance.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM10 and PM2.5. The BAAQMD CEQA Air Quality Guidelines consider contributions of fugitive dust to be less-than-significant if best management practices (BMPs) are implemented. As such, **Mitigation Measure AQ-1**, which provides for a variety of dust control measures during construction activities including watering the project site, covering haul loads, limiting idling time, and temporarily halting construction when winds are greater than 15 miles per hour, is set forth below. With the implementation of Measure AQ-1 (BAAQMD-recommended best management practices), construction activities will have less than significant impacts to air quality.

TABLE 2: CONSTRUCTION EMISSION ESTIMATES

Scenario	ROG	NOx	PM10 Exhaust	PM2.5 Exhaust
Total Construction Emissions (tons)	2.1	4.0	0.2	0.2
Average Daily Emissions (pounds/day)[1]	13.2	25.2	1.3	1.2
BAAQMD Thresholds (pounds/day)	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, November 19, 2018.

[1] Assumes 320 days of construction activity.

Operation

The BAAQMD CEQA Guidelines contains screening criteria, as shown in **Table 3**, for whether a proposed project could result in potentially significant air quality impacts during operation (i.e., post-construction). The operational screening levels are generally representative of new development on greenfield sites without any form of mitigation

measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are infill and/or proximate to transit service and local services (i.e., the proposed project), emissions would be less than the greenfield type project that the screening criteria are based on.

If all screening criteria are met by a proposed project, quantification of air pollutant emissions is not necessary to make a determination that the impact will be below the thresholds of significance.

TABLE 3: BAAQMD OPERATIONAL POLLUTANT SCREENING RESULTS

Land Use Type	Project	BAAQMD Screen Level	Above Screening Level?
Apartment, Low-Rise	110 units	451 units	No

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

Given the screening results of Table 3, it can be conservatively determined the project would result in a less than significant impact due to operational emissions. This determination was verified by project-specific quantification of operational emissions as detailed in the Air Quality and Greenhouse Gas Assessment. **Table 4** below provides the estimated levels of ROGs, NOx, PM10, and PM2.5 that will be generated at project operation, including heating, cooling, and lighting of new residences, natural gas, water and wastewater treatment and conveyance, as well as emissions from vehicle trips generated by the project. Table 4 shows that all criteria pollutants generated at operation will be well below BAAQMD thresholds of significance. Therefore, the project will result in a less than significant impact to air quality from emissions at operation.

TABLE 4: OPERATIONAL EMISSION ESTIMATES

Scenario	ROG	NOx	PM10	PM2.5
2021 Project Operational Emissions (tons/year)	1.4	1.6	0.7	0.2
BAAQMD Thresholds (tons/year)	10	10	15	10
Exceeds Threshold?	**No**	**No**	**No**	**No**
2021 Project Operational Emissions (pounds/day)[1]	7.9	8.7	3.6	1.1
BAAQMD Thresholds (pounds/day)	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, November 19, 2018.

[1] Assumes 365 days of operation.

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

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

Construction

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

Project construction was assumed to last approximately 15 months. Annual DPM and PM2.5 concentrations were calculated at nearby sensitive receptors, using receptor heights of 5 feet to represent the breathing heights of residents in nearby mobile homes and single-family residences. As detailed in the Air Quality and Greenhouse Gas Assessment, the maximum concentrations occurred at residence in the Brody Ranch subdivision northeast of the project site.

Using the maximum annual modeled DPM concentration, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated. Results, presented in **Table 5,** indicate that the maximum increased residential cancer risks without any mitigation or construction emissions control would be 17.9 in one million for an infant exposure and 0.3 in one million for an adult exposure. The maximum residential excess cancer risk would exceed the BAAQMD significance threshold of 10 in one million. The maximum-modeled annual PM2.5 concentration, which is based on combined exhaust and fugitive dust emissions, was 0.16 µg/m3. This maximum annual PM2.5 concentration would not exceed the BAAQMD significance threshold of greater than 0.3 µg/m3. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.1091 µg/m3. The maximum computed HI based on this DPM concentration is 0.02, which does not exceed the BAAQMD significance threshold of an HI greater than 1.0.

The proposed project would result in a significant impact related to community risk from construction activities, since the maximum cancer risk is above the single-source thresholds of 10.0 per million. As such, the project shall implement **Mitigation Measure AQ-2**, which requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 45 percent reduction, or more, in diesel particulate matter exhaust emissions. Measure AQ-2 will ensure that exposure of nearby neighbors (sensitive receptors) to construction related health risk emissions are reduced to levels below significance. In addition, as stated in Section 4.3(a), the project shall implement Measure AQ-1, which includes BAAQMD best management practices for dust control. With implementation of AQ-1 and AQ-2 (45% reduction in particulate emissions), construction activities will have less than significant impacts to sensitive receptors during construction activities.

The cumulative impacts of TAC emissions from construction of the project, traffic on area roadways (U.S. 101, North McDowell Blvd, Corona Road), and the stationary sources on the construction MEI are summarized in **Table 5**. The sum of impacts from combined sources at the construction MEI would be below the cumulative source thresholds established by the BAAQMD. Nonetheless, the project shall implement AQ-1 and AQ-2, which will reduce the cumulative impacts of TAC emissions on the construction MEI. Therefore, cumulative impacts will be less than significant.

TABLE 5: HEALTH RISK IMPACT AT CONSTRUCTION MEI

Source	Maximum Cancer Risk (per million)	PM2.5 Concentration (µg/m3)	Hazard Index
Project Construction			
Unmitigated	*17.9 (infant)*	*0.16*	*0.02*
Mitigated[1]	*1.9 to 8.0 (infant)*	*<0.10*	*<0.01*
BAAQMD Threshold – Single Source	**10.0**	**0.3**	**1.0**

Exceeds Threshold?			
Unmitigated	***Yes***	***No***	***No***
Mitigated	***No***	***No***	***No***
U.S. 101 at 1,000 feet, Link 738 (6 ft. elevation)	7.0	0.05	<0.01
N. McDowell Blvd at 450 feet, ADT 19,758	1.8	0.06	<0.01
Corona Road at 600 feet, ADT 13,164	0.6	0.02	<0.01
Railroad line at 100 feet[2]	<9.1	<0.01	0.00
Plant #18832 (generator) at 1,000 feet	<0.1	<0.01	<0.01
Plant #106677 (gas station) at 1,000 feet	0.1	NA	<0.01
Combined Sources			
Unmitigated	*<36.6*	*<0.31*	*<0.07*
Mitigated	*<20.6 to 26.7*	*<0.25*	*<0.06*
BAAQMD Threshold – Combined Sources	**100**	**0.8**	**10.0**
Exceeds Threshold?			
Unmitigated	***No***	***No***	***No***
Mitigated	***No***	***No***	***No***

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, November 19, 2018.

[1] Depends on the level of mitigation implemented.

[2] Public Draft Environmental Impact Report North Coast Railroad Authority, Russian River Division Freight Rail Project and Sonoma-Marin Area Rail Transit Project Final Environmental Impact Report. Age-sensitivity factors were applied to the cancer risk predictions. These predictions were made at 30 feet from the tracks. Construction MEI residence would be 100 feet.

Operation

At operation, the project will not generate stationary source emissions that could affect sensitive receptors. However, the project's new residents have the potential to be exposed to toxic air contaminants (TACs) released by vehicles traveling on nearby roads as well as from stationary sources permitted by BAAQMD. Although this is not an impact of the project on the environment, introducing new sensitive receptors to areas with elevated TAC levels would introduce a potential inconsistency with General Plan Policy 4-P-17: Avoid potential health effects and citizen complaints that may be caused by sources of odors, dust from agricultural uses, or toxic air contaminants.

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

The BAAQMD Risk and Hazard Screening Analysis Process Flowchart directs that lead agencies should identify three (3) emission sources (i.e., highway, major roadway, stationary) within 1,000 feet of a project's boundary and compare each source individually against the screening criteria and directs that the values from all sources be compared against a cumulative screening value. The emission sources in the vicinity of the project site include U.S. 101, North McDowell Boulevard, Corona Road, the SMART railroad, and stationary source emitters (generator and gas station).

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

related to stationary sources.

TABLE 6: COMMUNITY RISK IMPACT TO NEW PROJECT RESIDENCES

Source	Cancer Risk (per million)	Annual PM2.5 µg/m3	Hazard Index
U.S. 101 at 1,000 feet, Link 738 (6 ft. elevation)	7.0	0.05	<0.01
N. McDowell Blvd at 25 feet, ADT 19,758	2.8	0.23	<0.01
Corona Road at 150 feet, ADT 13,164	1.6	0.06	<0.01
Railroad line at 30 feet[1]	9.1	0.01	0.00
Plant #18832 (generator) at 480 feet	0.1	<0.01	<0.01
Plant #106677 (gas station) at 750 feet	0.2	NA	<0.01
BAAQMD Single-Source Threshold	**10.0**	**0.3**	**1.0**
Exceeds Threshold?	**No**	**No**	**No**
Cumulative Total	20.8	<0.36	<0.05
BAAQMD Cumulative Source Threshold	**100**	**0.8**	**10**
Exceeds Threshold?	**No**	**No**	**No**

Source: Air Quality and Greenhouse Gas Assessment, Illingworth & Rodkin, November 19, 2018.

[1] Public Draft Environmental Impact Report North Coast Railroad Authority, Russian River Division Freight Rail Project and Sonoma-Marin Area Rail Transit Project Final Environmental Impact Report. Age-sensitivity factors were applied to the cancer risk predictions. These predictions were made at 30 feet from the tracks. Closest residences would be 30 feet or further.

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

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

Mitigation Measures:

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

1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three times per day.

2) All haul trucks transporting soil, sand, or other loose material shall be covered.

3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4) All vehicle speeds on unpaved roads shall be limited to 15 mph.

5) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

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

9) The Developer shall designate a person with authority to require increased watering to monitor the dust and erosion control program and provide name and phone number to the City prior to issuance of grading permits. Post a publicly visible sign with the telephone number of designated person and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

AQ-2: To reduce potential impacts to air quality during construction, the project shall develop and implement a plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 45 percent reduction, or more, in diesel particulate matter exhaust emissions. Examples of how to achieve this reduction may include but is not limited to a combination of the following:

1) Diesel-powered off-road equipment larger than 25 horsepower operating on-site for more than two days continuously shall at a minimum meet U.S. EPA particulate matter emissions standards for Tier 2 engines that include CARB-certified Level 3 Diesel Particulate Filters or equivalent.[5] Equipment that meets U.S. EPA Tier 3 standards with DPF 3 filters for particulate matter or engines meeting Tier 4 particulate matter standards would meet this requirement.

2) All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines.

3) Line power would be provided to limit the use of any portable diesel-powered equipment to 20 hours (e.g., generators, compressors, welders, etc.).

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

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

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

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

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

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

4.4 BIOLOGICAL RESOURCES

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

Sources**:** City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); and Stream Maintenance Program Draft EIR, prepared by Sonoma County Water Agency, January 2009.

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.

Within the Urban Growth Boundary, biological resources are largely limited to the Petaluma River and its tributaries, which contain aquatic and riparian resources, as well as wetlands. The National Wetland inventory identifies fresh emergent wetlands in the southern portion of the Petaluma River and Northern coastal salt marsh wetland and brackish marsh wetland in the lower reaches of the Petaluma River.

The project site provides limited habitat value for biological resources. The project site has been previously

developed with industrial uses and is currently undergoing remediation for soil and groundwater impacts from past uses on the subject property (see Section 4.9 Hazards/Hazardous Materials for further details). Currently, the project site is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. Vegetated areas, largely of ruderal vegetation, are limited to strips of land adjacent to Corona Road, North McDowell Boulevard, the railroad, and Corona Creek. Other than a small cluster of trees in the center portion of the site, the site lacks trees and other vegetation.

Corona Creek abuts the eastern portion of the property. This reach of Corona Creek extends from the railroad crossing to North McDowell Road and is an engineered channel maintained by the Sonoma County Water Agency. The banks are vegetated with ruderal vegetation including Himalayan blackberry, ice plant, ivy, and grasses; wetland vegetation comprises approximately 75% of the total channel reach and is dominated by cattail growth. Approximately 0-25% of the riparian corridor and canopy closure provided by a mixture of mature willows, ash, eucalyptus oaks, redwoods, and maple riparian vegetation along top of banks. The creek provides poor quality instream habitat due to overgrowth of algae and urban contaminants potentially conveyed in runoff from surrounding development. This reach of the creek provides potential habitat for western pond turtle. [6]

Biological Resources Impact Discussion

4.4 (a) (Special Status Species) Less Than Significant Impact with Mitigation: As described above, the project site has been previously disturbed from historical uses on the property and remediation activities involving soil excavation and groundwater monitoring. As such, the project site provides limited habitat value for biological resources, including special-status plants and special-status wildlife.

No development is proposed within Corona Creek and an approximately 60 foot setback is provided from the nearest proposed residence. The project includes a Corona Creek buffer area at the eastern edge of the subject property and includes a wood and wire view fence, trees, a decomposed granite path, ornamental grasses, and a bioretention basin. Limits of work will not extend onto the property containing Corona Creek nor will grading or construction intrude into the riparian canopy along this segment of Corona Creek.

The small cluster of trees located in the central portion of the site, within the railroad right-of-way, and within the riparian canopy of Corona Creek, may provide suitable nesting habitat for raptors and other bird species protected under the Migratory Bird Treatment Act (MBTA). Birds may nest in trees or other above ground vegetation, on the ground, or in and around structures or other man-made features. Various species will breed and nest at different times of the year, however the breeding bird season for all birds is commonly considered to begin February 1 and end August 31 of any year. It is during this period that care should be taken to protect birds, especially stationary nests that are active (i.e., contain eggs or young).

Removal of vegetation where nesting could occur should be conducted during the non-breeding season (September through January), and no pre-construction nesting bird surveys would be required for construction activities occurring during this period. If vegetation removal and/or construction cannot be avoided during the breeding season (February through August), pre-construction surveys shall be conducted within 7 days and up to 14 days prior to start of work to identify active nests, as described in **Mitigation Measure BIO-1**. Active nests must be protected by establishing exclusion buffer zones, until the young have fledged. Work can continue in areas outside of the buffer zones and can resume within the buffer zone once the young have left the nest or the nest is determined to no longer be active. With implementation of **Mitigation Measure BIO-1**, potential impacts to birds protected under the MBTA would be reduced to less than significant levels.

The Corona Creek riparian corridor, which abuts the project site, and extends to the north and the south, may offer nesting opportunities to raptors, passerine birds, waterfowl and other avian species protected under the MBTA. As such, raptors and other bird species protected under the MBTA within the riparian corridor may be affected by construction activities and noise. Mitigation measure BIO-1 requires pre-construction surveys for nesting birds be conducted for all trees within 200 feet or as otherwise determined by a qualified ornithologist, which includes the riparian corridor. Therefore, with implementation of BIO-1 impacts to nesting birds within the riparian corridor adjacent to the project site will be reduced to less than significant levels.

[6] Stream Maintenance Program Draft EIR, Sonoma County Water Agency, January 2009.

4.4 (b) (Riparian Habitat) Less Than Significant Impact: The proposed project will not result in direct or indirect adverse impacts to riparian habitat along Corona Creek. Construction activities, which include grading, fence installation, and landscape planting, would take place approximately 40 feet from the top of bank of Corona Creek and fully outside the riparian canopy. Furthermore, all best management practices to regulate sediment and erosion control during grading will be implemented. Therefore, impacts to the riparian corridor along Corona Creek will be less than significant from the proposed project.

4.4 (c) (Wetlands) Less Than Significant Impact: The proposed project will not result in direct or indirect impacts to Corona Creek, as the nearest construction activity will occur approximately 40 feet from the top of bank. As the project site is comprised of gravel and hardpacked surfaces and has been previously graded and disturbed, there are no wetlands or other features onsite. Consequently, the proposed project will not result in the fill of jurisdictional features regarded as waters of the U.S. and/or State subject to regulation by the Corps and/or the RWQCB. Therefore, impacts to wetlands will be less than significant.

4.4 (d) (Wildlife/Fish Movement & Nursery) Less Than Significant Impact: With the exception of Corona Creek, the project site is surrounded by roadways and existing urban uses. Further, the project site has been previously disturbed by past uses. As such, the subject property does not serve as a migratory wildlife corridor and/or wildlife nursery site. Corona Creek, which is adjacent to the subject property, provides a narrow corridor movement for some wildlife species. However, this segment of Corona Creek is located between the SMART rail to the north and McDowell Road to the south, which fragment the riparian corridor. The proposed project will introduce housing similar to other existing development in the project vicinity. No improvement are proposed Corona Creek and the project includes a buffer area to further set back from the riparian corridor. Therefore, impacts due to the project affecting wildlife and fish corridors would be less than significant.

4.4 (e) (Tree Preservation) Less Than Significant Impact: Petaluma's Implementing Zoning Ordinance (IZO) Chapter 17 addresses tree preservation requirements with development projects. IZO §17.040 defines which tree species and sizes are subject to review. None of the trees proposed from removal are considered 'protected trees' under Petaluma's Implementing Zoning Ordinance Chapter 17 (Tree Preservation). Therefore, the project would have a less than significant impact under this criterion.

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

Mitigation Measures:

BIO-1: In order to avoid impacts to special-status avian species and other birds protected under the Migratory Bird Treaty Act, site preparation activities, including the removal of trees and building demolition, should occur outside of the bird-nesting season between September 1st and January 31st. If vegetation removal or construction begins between February 1 and August 31, preconstruction surveys including call sounds shall be conducted by a qualified biologist within 7 days and up to 14 days prior to such activities to determine absence or the presence and location of nesting bird species. The nesting survey shall include the examination of all trees within 200 feet of the project site, or as otherwise determined by a qualified ornithologist, including those not identified for removal. If active nests are present, temporary protective breeding season buffers shall be established by a qualified biologist in order to avoid direct or indirect mortality or disruption of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist to prevent nest abandonment and direct mortality during construction. Buffers may be larger for special-status species. Work may proceed if no active nests are found during surveys or when the young have fledged a nest or the nest is determined to be no longer active.

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.

Cultural Resources Setting

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

The project site was historically used for industrial uses (feed mill) and truck fueling, repair, sandblasting, and painting operations. In December 2016, the project site contained several buildings; however, the buildings, foundations, and truck scale were demolished on various dates between May 9 and June 19, 2018.[7] The project site is currently undergoing remediation for soil and groundwater impacts from past uses on the subject property (see Section 4.9 Hazards/Hazardous Materials for further details).

The project site is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. Vegetated areas, largely of ruderal vegetation, are limited to strips of land adjacent to Corona Road, North McDowell Boulevard, the railroad, and Corona Creek. Corona Creek abuts the eastern portion of the property.

Cultural Resources Impact Analysis

4.5 (a) (Historical Resource) No Impact: The project site is not located within a designated historic district and does not contain any historically significant above ground resources, nor does it constitute a historic site. The project site has been previously disturbed and is currently used for parking, storage and staging vehicles and materials. Accordingly, in the absence of any historic resources within the subject property, the proposed project would not directly or indirectly affect the significance of a historical resource. Therefore, the project would have no impacts due to a change in the significance of a historical resource.

4.5 (b) (Archaeological Resources) Less Than Significant with Mitigation: The 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 a prehistoric archaeological resource. 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 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).

The project site has been used for industrial purposes and is currently undergoing remediation to remove contaminated soils. Although onsite soils have been previously disturbed, there is the potential for archeological 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, **Mitigation Measure CUL-1** provides that all work shall halt in the event that a potential archeological resource is unearthed during construction.

[7] Soil Excavation Report, 890 North McDowell Boulevard and 320 Corona Road, prepared by Pinnacle Environmental, Inc., August 7, 2018.

Should any archeological features be identified during construction, measure CUL-1 requires compliance with CEQA §21083.2 and CEQA Guidelines §15064.5. Therefore, with implementation of CUL-1 potential impacts will be reduced to less than significant levels.

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

Cultural Resources Mitigation Measures:

CUL-1: If during the course of ground disturbing activities, including, but not limited to excavation, grading and construction, a potentially significant prehistoric or historic resource is encountered, all work within a 100-foot radius of the find shall be suspended for a time deemed sufficient for a qualified and city-approved cultural resource specialist to adequately evaluate and determine significance of the discovered resource and provide treatment recommendations. Should a significant archeological resource be identified a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

4.6 ENERGY

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

Sources: City of Petaluma General Plan 2025 and EIR; BAAQMD 2017 Bay Area Clean Air Plan; Air Quality and Greenhouse Gas Assessment, prepared by Illingworth & Rodkin, November 19, 2018; and California Energy Commission various publications.

Energy Setting

Energy resources include electricity, natural gas and other fuels. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. Energy production and energy use both result in the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants. Energy consumption is measured using the British Thermal Unit (BTU). BTU is the amount of energy that is required to raise the temperature of one pound of water by one-degree Fahrenheit. 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 building standards require that solar photovoltaic systems be installed on single-family residences, multi-family buildings, hotels/motels, and non-residential buildings constructed in 2020 and beyond.

California Energy Consumption

According to the California Energy Commission (CEC), total system electric generation for California in 2018 was 285,488 gigawatt-hours (GWh)[8], down two percent from 2017. California's non-CO_2 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.

According to the CEC, approximately 45 percent of the natural gas burned in California was used for electricity generation, with the remainder consumed 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. Natural gas demand in all sectors has remained relatively constant, however from 2011 to 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation increased by approximately 30 percent.[9]

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.[10] An increasing amount of electricity is also being used for transportation energy, which is chiefly attributed to the acceleration of light-duty plug-in electric vehicles.

City of Petaluma

The City of Petaluma contains energy resources that encompass a variety of fuels that provide lighting for residential and commercial uses, heating and cooling for indoor environments, and aid in the operation of transportation systems. In 2010 the City of Petaluma's annual household consumption rate was 6,000 kwh (electricity) and 493 therms (natural gas). The City of Petaluma's largest energy consumer is the transportation sector.

The General Plan contains goals, policies and programs intended to reduce energy consumption. Chapter 2: Community Design, Character, and Green Building identifies sustainable building strategies and practices, which minimize energy consumption. Chapter 4: The Natural Environment contains policies and programs to reduce reliance on non-renewable energy sources in existing and new development. Energy policies supporting alternative and efficient transportation systems, and the reduction of energy consumption in buildings by means of appropriate design and orientation are identified in Section 3.3: Sustainable Building and Chapter 5: Mobility. Residential energy efficiency is addressed in Chapter 11: Housing Element.

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

[8] California Energy Commission, Total System Electric Generation (2018) https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html, accessed August 26, 2019

[9] California Energy Commission, Supply and Demand of Natural Gas in California https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html, Accessed August 26, 2019.

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

- Policy 4-P-15D: Reduce emissions from residential and commercial uses by requiring the following:
    - Use of high efficiency heating and other appliances, such as cooking equipment, refrigerators, and furnaces, and low NOx water heaters in new and existing residential units;
    - Compliance with or exceed requirements of CCR Title 24 for new residential and commercial buildings; and
    - Incorporation of passive solar building design and landscaping conducive to passive solar energy use for both residential and commercial uses, i.e., building orientation in a south to southeast direction, encourage planting of deciduous trees on west sides of structures, landscaping with drought resistant species, and use of groundcovers rather than pavement to reduce heat reflection.
- Policy 4-P-19D: Encourage use and development of renewable or nontraditional sources of energy. Consider the feasibility of requiring a percentage of new development to meet 50% of their energy needs from fossil fuel alternatives (e.g. solar panels, etc.).

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

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. Further, Mitigation Measure AQ-2 requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 45 percent reduction, or more, in particulate matter exhaust emissions. 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 new residences (e.g., lighting, electronics, heating, air conditioning, 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 through the generation of new vehicle trips by residents, workers, and visitors.

The project will be subject to the California Building Standards Code. In 2016, the City adopted an update to the California Building Standards Code, which contains the mandatory California Green Building Standards Code (CALGreen). All new development within the City of Petaluma must comply with these standards, which generally achieve energy efficiency approximately 15% beyond Title 24 as well as a construction waste reduction rate of 65%. The proposed development will be constructed on or after January 1, 2020, and as such will be required to adhere to the 2019 Building Energy Efficiency Standards (Title 24, Part 6 of the CCR). As described above, solar photovoltaic systems will be required on all residential structures. In addition, the proposed development will adhere to other new standards related to thermal envelope, the prevention of heat transfer, and ventilation requirements.

The City of Petaluma requires that all new development demonstrate compliance with CALGreen Tier 1 Building standards. CALGreen Tier 1 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 1 standards.

Features and landscaping have been incorporated into the design of the project to achieve energy conservation. For example, trees are proposed around the perimeter of the lot as well as between buildings to provide shading

and minimize energy requirements. In addition, the majority of landscaping includes drought resistant, low water usage species.

Energy would be consumed through daily residential activities, the delivery of water for potable and irrigation purposes, solid waste management, and daily vehicle use by residents, workers, and visitors. While the long-term operation of the project would result in an increase in energy consumption compared to existing conditions, the project will incorporate design measures (related to electricity and water use) in compliance with CALGreen, the General Plan, and the Petaluma IZO to minimize energy consumption. Therefore, operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy and impacts would be less than significant.

4.6 (b) (Conflict with State or Local Plan) Less Than Significant Impact: As previously described, the proposed project would have a less than significant impact due to a conflict with the 2017 CAP since the 2017 CAP is based on land use and growth projections consistent with those used in the Petaluma General Plan. The project's land use and development intensity is consistent with that assumed by the General Plan for the project site. There are no other control measures of the 2017 CAP that apply to the project. Therefore, the project will not conflict with or obstruct implementation of the Bay Area 2017 Clean Air Plan and no impact will result.

In December 2007, the CEC prepared the State Alternative Fuels Plan in partnership with the CARB and in consultation with the other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality. As a residential project that would install energy conservation features, the proposed project would not conflict with or obstruct implementation of the State Alternative Fuels Plan and impacts would be less than significant.[11]

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	☐	☒	☐	☐

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

	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: City of Petaluma General Plan 2025 and EIR; and Stevens, Ferrone & Bailey, Engineering Company, Inc., Geotechnical Investigation, August 28, 2018.

Geology and Soils Setting

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

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

Stevens, Ferrone & Bailey, Engineering Company, Inc. prepared a site-specific Geotechnical Investigation for the proposed project on August 28, 2018 (**Appendix D**). Following is a summary of the findings and recommendations from the Geotechnical Investigation:

- Undocumented fills extending to depths of about 2 feet below existing grades were encountered in Borings SFB-1, SFB-2, and fills between 6 and 8 feet deep were encountered in Borings SFB-4 and SFB-5. In addition, between 2 and 10 feet of fill reportedly exists in the prior excavations on the site (conducted to remove contaminated soils). The fills are heterogeneous and weak and compressible under the proposed improvement loads. In order to reduce the potential for damaging differential settlement of overlying improvements (such as new fills, building foundations, driveways, exterior flatwork, and pavements), it is recommended that these fills be completely removed and re-compacted.

- The clayey onsite near-surface soils have high to very high plasticity and expansion potential and will be subjected to volume changes during seasonal fluctuations in moisture content. To reduce the potential for post-construction distress to the proposed structures resulting from swelling and shrinkage to these materials, it is recommended that the proposed residences be supported on a post-tensioned slab foundation system that is designed to reduce the impacts of the expansive soils.

- Results of the liquefaction analysis indicate saturated, medium dense sand lenses up to 12 feet thick encountered in the onsite borings, have a high potential for liquefying when subjected to a Maximum Considered Earthquake (MCE) event. If the site was subjected to an MCE earthquake event, total aerial ground surface settlements of approximately 0.5 to 1.5 inches could occur.

- The retaining walls and sound walls can be supported on drilled, cast-in-place, straight shaft friction piers that develop their load carrying capacity in the materials underlying the site.

Geology and Soils Impact Discussion

4.7 (a.i.) (Faults) No Impact: The project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known active faults directly traverse the site (**Figure B-3** in **Appendix B**). Therefore, there is no risk of fault-related ground rupture during earthquakes within the limits of the site due to a known Alquist-Priolo Earthquake Fault zone.

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

The project site is located approximately 4.5 miles to the Rodgers Creek Fault to the northeast, 15 miles to the San Andreas Fault to the southwest, 17 miles to the West Napa Fault to the east. As such, the project site holds potential to expose people and structures to potentially substantial adverse effects resulting from strong seismic ground shaking. The resultant vibrations would likely cause primary damage to buildings and infrastructure with secondary effects being ground failures in loose alluvium and poorly compacted fill. Both the primary and secondary effects of seismic activity pose a risk of loss of life or property.

The intensity of earthquake motion will depend on the characteristics of the generating fault, distance to the fault and rupture zone, earthquake magnitude, earthquake duration, and site specific geologic conditions. The Geotechnical Investigation identified the following earthquake design data:

Table 3: 2016 CBC Ground Motion Parameters

Site Class	D
S_s	1.57
S_1	0.619
F_a	1.0
F_v	1.5

Source: Geotechnical Investigation, prepared by Stevens, Ferrone & Bailey, Engineering Company, Inc., August 28, 2018.

Conformance with standards set forth in the Building Code of Regulations, Title 24, Part 2 (the California Building Code 3.7-20 Chapter 3: Setting, Impacts, and Mitigation Measures [CBC]) and the California Public Resources Code, Division 2, Chapter 7.8 (the Seismic Hazards Mapping Act) will ensure that potential impacts from seismic shaking are less than significant. Adherence to Class D specifications for ground motion parameters will ensure that the proposed buildings, walls, and associated improvements onsite would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death as a result of seismic activity. Therefore, potential impacts from ground shaking will have a less than significant impact.

4.7 (a.iii) (Seismic-Related Ground Failure/Liquefaction) Less Than Significant Impact with Mitigation: Liquefaction is the rapid transformation of saturated, loosely packed, fine-grained sediment to a fluid like state as a result of ground shaking. Potential for liquefaction is most pronounced when the groundwater table is shallow (typically less than 50 feet below the surface) and the liquefaction potential becomes increasingly heightened as the water table becomes shallower. The Petaluma water table is generally found 10-20 feet below the surface. Figure 3.7-5 of the General Plan EIR indicates that much of the UGB falls within a "Moderate Liquefaction Hazard Level" with the area abutting the Petaluma River exhibiting a "High to Very High Liquefaction Hazard Level". As discussed in the Geotechnical Investigation, the subject property has a high potential for liquefying when subjected to a high intensity earthquake event.

In order to ensure that the project is able to adequately withstand liquefaction settlement, the project shall comply with **Mitigation Measure GEO-1**, which requires that the project adhere to the earthwork, foundation design recommendations, and retaining/sound wall designs outlined in the Geotechnical Investigation prepared by Stevens, Ferrone & Bailey, Engineering Company, Inc. With the implementation of **Mitigation Measure GEO-1**, potential impacts resulting from seismic-related ground failure will be reduced to less than significant levels.

4.7 (a.iv) (Landslide) No Impact: The potential for a risk of landslide is dictated by several factors including precipitation conditions, soil types, steepness of slope, vegetation, seismic conditions and level of human disturbance. When certain conditions are present landslides can be triggered as a result of seismic activity. Landslides have been known to occur in Sonoma County, but are typically limited to slopes steeper than 15% and confined to areas underlain by geologic units that have demonstrated stability problems in the past. The project site is located outside of the Landslide Complex (areas of previous ground failure) as identified in Figure 3.7-5 of the Petaluma General Plan 2025.The topography of the site lacks steep slopes and is generally flat with a 0.5% slope across the property. Based on the negligible slope of the site and the fact that the project will be located a sufficient distance from any sloped terrain, there will be no impacts related to landslides or slope failure.

4.7 (b) (Erosion) Less Than Significant Impact with Mitigation: Development of the project will require site preparation and grading activities that will potentially result in soil erosion or the loss of topsoil if not properly controlled. Water and wind serve as the primary catalyst of soil erosion, with steeper slopes intensifying the effects. Vegetation removal as part of the site preparation process as well as grading and ground disturbing activities associated with development can heighten the potential for and accelerate soil erosion. In order to ensure that potential impacts related to soil erosion are reduced to levels below significant, **Mitigation Measure GEO-2**, set forth below, requires that the applicant to submit an erosion control plan that identifies measures to be implemented during construction and establishes provisions for grading activity during the rainy season. With implementation of GEO-2, impacts associated with soil erosion will be reduced to less than significant levels.

4.7 (c) (Unstable Geologic Unit) Less Than Significant with Mitigation: Lateral spreading, lurching and associated ground cracking can occur during strong ground shaking. Lurching and ground cracking generally occurs along the tops of slopes where stiff soils are underlain by soft deposits or along steep channel banks whereas lateral spreading generally occurs where liquefiable deposits flow towards unconfined spaces, such as channel banks, during an earthquake. The proposed development would be set back approximately 60 feet from the Corona Creek top-of-bank; therefore, development would not be located along any steep channel banks.

As stated in the Geotechnical Investigation, undocumented fills extending to depths of about 2 feet below existing grades were encountered in Borings SFB-1, SFB-2, and fills between 6 and 8 feet deep were encountered in Borings SFB-4 and SFB-5. In addition, between 2 and 10 feet of fill reportedly exists in the prior excavations on the site (conducted to remove contaminated soils). The Geotechnical Investigation recommends that these fills be completely removed and re-compacted.

In order to reduce the potential for damaging differential settlement of overlying improvements (such as building foundations, driveways, exterior flatwork, pavement, and utilities), the project shall comply with **Mitigation Measure GEO-1**, which requires that the project adhere to the earthwork, foundation design, exterior flatwork, and retaining/sound wall design recommendations outlined in the Geotechnical Investigation. With the implementation of Measure GEO-1, potential impacts relating to unstable geologic units will be reduced to less than significant levels.

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

As described in the Geotechnical Investigation, the clayey onsite near-surface soils have high to very high plasticity and expansion potential and will be subjected to volume changes during seasonal fluctuations in moisture content. To reduce the potential for post-construction distress to the proposed structures and infrastructure resulting from swelling and shrinkage to these materials, the Geotechnical Investigation recommends that the proposed buildings be supported on a post-tensioned slab foundation system that is designed to reduce the impacts of the expansive

soils. The Geotechnical Investigation identified recommendations for earthwork, exterior flatwork, drainage, utilities, and retaining/sound wall designs to avoid the affects of expansive soils.

In order to reduce potential impacts due to the presence of expansive soils, **Mitigation Measure GEO-1**, shall be implemented, which requires that the project adhere to recommendations presented in the Geotechnical Investigation. Adherence to **Mitigation Measure GEO-1**, including any other recommendations derived through mandatory conformance with Title 24 (California Building Code Standards), would ensure the project results in a less than significant impact from expansive soils.

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

4.7 (f) (Unique Paleontological Resource) Less Than Significant Impact: The Petaluma General Plan does not identify the presence of any paleontological or unique geological resources within the boundaries of the UGB. Moreover, the project site has experienced ground disturbance, as it was formerly excavated for the removal of contaminated soils. As such, there is limited potential for paleontological resources to be present on the project site.

Nevertheless, potential remains for the discovery of buried paleontological resources. Accordingly, a condition of approval will be imposed on the project that requires construction activity to halt in the event of accidental discovery during grading activities in accordance with CEQA §21083.2 and CEQA Guidelines §15064.5. Given the project's location and application of a condition addressing accidental discovery, the project is not expected to result in a substantial adverse change to unique paleontological or geologic resources and impacts will be less than significant.

Mitigation Measures:

GEO-1: As determined by the City Engineer and/or Chief Building Official, all recommendations outlined in the Geotechnical Investigation dated August 28, 2018, prepared by Stevens, Ferrone & Bailey, Engineering Company, Inc., including but not limited to, site preparation and grading, excavation, seismic design, foundation design, and sound wall design are herein incorporated by reference and shall be adhered to in order to ensure that appropriate construction measures are incorporated into the design of the project. 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. These plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.

4.8 GREENHOUSE GAS EMISSIONS

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

Sources: City of Petaluma General Plan 2025 and EIR; Bay Area Air Quality Management District Bay Area 2017 Clean Air Plan; Bay Area Air Quality Management District, CEQA Guidelines, May 2017; Sonoma County Regional Climate Action Plan 2020 and Beyond, prepared July 2016; and Air Quality and Greenhouse Gas Assessment, prepared by Illingworth & Rodkin, November 19, 2018.

Greenhouse Gas Setting

Greenhouse gases (GHGs) are generated from natural geological and biological processes and through human activities including the combustion of fossil fuels and industrial and agricultural processes. GHGs include carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

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

To address GHG's at the State level, the California legislature passed the California Global Warming Solutions Act in 2006 (Assembly Bill 32), which requires that statewide GHG emissions be reduced to 1990 levels by 2020 and an 80 percent reduction below 1990 levels by 2050. In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The 2017 Climate Change Scoping Plan identifies how the State can reach the 2030 climate target to reduce GHG emissions by 40 percent from 1990 levels, as set by Executive Order B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan also describes how the State can substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

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

A Climate Action Plan was prepared in July 2016 by the Sonoma County Regional Climate Protection Authority (RCPA) on behalf of Sonoma County and all nine local jurisdictions. The Climate Action Plan implements the City of Petaluma's General Plan Policy 4-P-27, which aims to achieve a reduction in greenhouse gas emissions. Several General Plan policies serve to reduce GHG emissions associated with project construction, design and operation.

General Plan Goal 5-G-8 seeks to expand the use of alternative modes of transportation which serve regional needs. The Sonoma Marin Area Rail Transit (SMART) Plan provides an alternative mode of transportation via the light rail commuter service to Sonoma and Marin Counties. The light rail effort is estimated to divert more than 1.4 million car trips from Highway 101 annually and reduce GHGs by at least 124,000 pounds per day. Regular service began in August 2017 and includes service to and from Petaluma via the Downtown Petaluma Station, located on Lakeville Highway between East D Street and East Washington Street.

The planned Petaluma North Station (Corona Station) is proposed adjacent to the project site. The proximity of the proposed project to the planned Corona) Station is consistent with General Plan Policy 2-P-90, which seeks to locate high-intensity, transit-oriented development close to the planned Petaluma North (Corona) Station as it will provide an opportunity for residents to utilize an alternative mode of transportation, contributing to the reduction in automobile trips and associated GHG emissions.

General Plan Policy 2-P-122 requires new development projects to prepare a Construction Phase Recycling Plan that would address reuse and recycling of major waste generated by demolition and construction activities, such as soil, vegetation, concrete, lumber, metal scraps, and cardboard packaging. As a condition of approval, the Project will be required to prepare and implement a Construction Phase Recycling Plan.

In 2016, the City adopted an update to the California Building Standards Code, which contains the mandatory California Green Building Standards Code (CALGreen). All new development within the City of Petaluma must comply with these standards, which generally achieve energy efficiency approximately 15% beyond Title 24 as well as a construction waste reduction rate of 65%. The proposed project will likely be constructed after January 1, 2020, and therefore will be required to comply with the 2019 Building Energy Efficiency Standards (Title 24, Part 6 of the CCR), further described in Section 4.6 Energy. The implementation of the 2019 Building Energy Efficiency

Standards, 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 of approximately 119,000 metric tons of carbon dioxide equivalence ($MTCO_2e$). Separate regional efforts implemented within Petaluma by entities such as the Regional Climate Protection Authority, Sonoma County Water Agency, County of Sonoma Energy Independence Office, Sonoma County Transportation Authority, and Sonoma Clean Power will result in an additional GHG reduction of 28,200 $MTCO_2e$. Under the City of Petaluma's authority, the Sonoma County Climate Action Plan identifies 12 goals and 24 measures that would achieve an additional GHG reduction of 18,490 $MTCO_2e$. Combined, the state, regional and local measures can achieve a GHG reduction of 166,350 $MTCO_2e$ within Petaluma.[12]

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 $MTCO_2e$, representing a 31% reduction of GHG emissions relative to the 2020 business as usual forecast. Additionally, per capita emissions in 2020 are projected to be 6.2 MTCO2e, which also represents a 31% decrease from 1990 per capita emissions.[13]

Greenhouse Gas Significance Thresholds

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

Greenhouse Gas Impact Analysis

4.8 (a) (Significant GHG Emissions) Less Than Significant Impact with Mitigation: Construction of the project will result in GHG emissions from heavy-duty construction equipment, worker trips, and material delivery and hauling. Construction GHG emissions are short-term and will cease once construction is complete. GHG emissions associated with construction were computed to be 554 MT of CO2e for the total 15-month construction period. The BAAQMD has not established thresholds of significance for GHG emissions resulting from construction activities. Rather, BAAQMD encourages the incorporation of best management practices to reduce GHG emissions during construction. As stated under Section 4.3 Air Quality, the project will be required to implement BAAQMD's best management practices during construction as detailed in AQ-1. AQ-2 will also be implemented, which requires the development and implementation of a construction plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 45 percent reduction, or more, in particulate matter exhaust emissions. In addition, consistent with General Plan Policy 2-P-122 a project condition of approval shall be imposed which requires preparation of a Construction Phase Recycling Plan. The Plan shall, at a minimum, include the use of local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials. Implementation of AQ-1, AQ-2, and project conditions of approval will result in a less than

[12] Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan, prepared July 2016, Table 5.4-4

[13] Ibid., page 5-61

significant impact with regard to construction generated GHG emissions.

Operational Emissions

Before conducting a detailed estimation of whether a project would have a potential for exceeding the GHG emission thresholds, the BAAQMD recommends applying screening criteria based on development type. The screening criteria were derived using default assumptions as well as modeling for indirect emissions such as electric generation, solid waste, and water use. Projects below the screening criteria are considered to emit GHG emissions below the threshold of significance. As shown in **Table 8**, the project size exceeds the BAAQMD screening level. Therefore, daily emissions associated with operation of the fully-developed project were estimated using CalEEMod and the project's vehicle trip generation.

TABLE 8: BAAQMD GREENHOUSE GAS SCREENING RESULTS

Land Use Type	Project	BAAQMD Screen Level	Above Screening Level?
Apartment, Low Rise	110 units	78 units	Yes

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

Table 9 provides a summary of the annual net emissions resulting from operation of the proposed project as presented in the Air Quality and Greenhouse Gas Assessment prepared by Illingworth and Rodkin. As indicated, the 2030 emissions exceed the "Substantial Progress" threshold of both 660 MT of CO2e/year and the service population threshold of 2.8 MT CO2e/year/service population. Implementation of **Mitigation Measure GHG-1**, which requires the development and implementation of a Greenhouse Gas Reduction Plan will reduce operational emissions to a less than significant level.

TABLE 9: ANNUAL GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)

Source Category	Proposed Project (2021)	Proposed Project (2030)	Proposed Project with Mitigation (2030)
Area	11	11	
Energy Consumption	298	298	
Mobile	760	598	
Solid Waste Generation	67	67	
Water Usage	12	12	
Total	**1,148**	**986**	**816**
Significance Threshold	1,100 MT CO2e/year	660 MT CO2e/year	660 MT CO2e/year
Service Population Emissions[1]	3.8	3.2	2.68
Significance Threshold	***4.6 in 2020***	***2.8 in 2030***	***2.8 in 2030***
Significant (Exceed Both)?	***No***	***Yes***	***No***

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

[1] The project service population efficiency rate is based on the number of future residents. The number of future residents was estimated to be 305, which utilizes the California Department of Finance population data for average persons per household in Petaluma (2.72) multiplied by the number of residential units proposed (112)

Note: It should be noted that, following preparation of the air quality and greenhouse gas analysis, the number of units was reduced from 112 to 110. The data presented above analyzes the 112-unit project.

4.8 (b) (GHG Plan Conflict) Less Than Significant Impact with Mitigation: The City of Petaluma has adopted GHG emission reduction policies and programs as part of the General Plan 2025. These policies and programs address energy efficiency, transportation, conservation and provide for educational programs. Applicable General Plan Policies include Policy 4-P-15D which requires the incorporation of passive solar building design and landscaping for all new residential uses; and Policy 4-P-19D which encourages the use of renewable or nontraditional sources of energy such as the use of solar panels in new development.

Energy conservation features to be included onsite include providing electric vehicle charging stations in each of the residential garages; installation of solar panels on all new buildings; and installation of all electric appliances including high efficiency heating and other appliances, such as cooking equipment, refrigerators, and furnaces, and low NOx water heaters in new residential units.

The City implements a variety of regulations intended to reduce GHG emissions in the City from existing and future sources. For example, all new construction is required to implement CALGreen Modified Tier 1 standards, which include a detailed list of green building features that address energy efficiency, water efficiency, waste reduction, material conservation and indoor air quality. The City is committed to implementing local GHG reduction measures identified in Climate Action 2020 and Beyond. **Mitigation Measure GHG-1** provides for a GHG reduction plan and would be sufficient to meet the objectives of Climate Action 2020 and Beyond.

The proposed project will provide two bicycle parking spaces within residential garages and two inverted “U” racks. Additionally, the project proposes construction of a future pedestrian and bicycle path parallel and adjacent to the existing rail line. Trees are proposed around the perimeter of the lot as well as between buildings to provide shading and minimize energy requirements. In addition, the majority of landscaping includes drought resistant, low water usage species and bioretention facilities are proposed throughout the site. As proposed and with Mitigation Measure GHG-1, the project implements local and regional efforts to minimize GHG emissions. Therefore, the project’s impacts due to a conflict with local, regional and statewide GHG control plans would be less than significant with mitigation.

Mitigation Measures:

GHG-1: A GHG reduction plan shall be developed and demonstrate that GHG emission from operation of the project would be reduced, such that the project would have GHG emissions not exceeding 660 MT of CO2e/ year or 2.8 MT/capita/year in 2030. Elements of this plan may include the following:

- Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- Provide infrastructure for electric vehicle charging in residential units (i.e., provide 220 VAC power)
- Develop and implement a transportation demand management (TDM) program to reduce mobile GHG emissions;
- Incorporate pedestrian and bicycle circulation features;
- Increase water conservation above State average conditions for residential uses;
- Construct onsite or fund off-site carbon sequestration projects such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted. If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions;

- Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by the County.

4.9 HAZARDS/HAZARDOUS MATERIALS

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

Sources: City of Petaluma General Plan 2025 and EIR; Pinnacle Environmental, Inc., Phase I Environmental Site Assessment, February 15, 2017; Pinnacle Environmental, Inc., Phase II Environmental Site Assessment, October 12, 2017; and EnviroStor and GeoTracker Databases (accessed 7/31/19).

Hazards/Hazardous Materials Setting

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

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

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

Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was conducted by Pinnacle Environmental, Inc. on February 15, 2017 for the subject property (**Appendix E**). The Phase I ESA was prepared in accordance with the guidelines of the American Society of Testing and Materials (ASTM) Standard Practice E1527-2013 and the EPA Standard and Practices for All Appropriate Inquiries (40 CFR Part 312). The Phase I ESA identified the following Recognized Environmental Conditions (RECs) or other issues in connection with the subject property:

- The subject property has been used for industrial uses since at least 1942. The property was occupied by Pacific Guano Company from 1949 to 1959. Former manufacturing operations at Pacific Guano Company at the subject property present a potential for release of fertilizer or fertilizer ingredients to the surface soil and the subsurface including soil and groundwater.

- The property was occupied by the Corona Feed Mill in 1965. The feed mill received raw grain from a railroad spur that came onto the property. Typically, a feed mill operation includes grain elevators and silos, and a steam process that compresses ground feed into pellets. Evidence of grain silos and elevators were depicted in a 1973 aerial photograph. Based on the unknowns associated with former feed facility, a geophysical survey is recommended for the northwestern portion of the subject property to evaluate whether buried debris or other anomalies exist on-site.

- A fuel pump and groundwater well were permitted for the address 320 Corona in 1964. A cardlock diesel fuel facility was permitted at the subject property in 1992 that included above-ground storage tanks (ASTs) for diesel. This facility was closed in 2005. A fuel depot and other ASTs were located on the property early-1980s. Based on a Phase II completed by Kleinfelder in 2010 and 2011, soil and groundwater beneath the subject property in the area of the former ASTs are impacted with gasoline related constituents (e.g., BTEX, 1,2-DCE and 1,2-DCA). Former fueling activities and resulting soil and groundwater impacts are a recognized environmental condition and a vapor encroachment condition.

- The property has been used for trucking related business which included truck maintenance, painting and sandblasting since at least the early 1980s. Recent truck repair operations have occurred at the subject property that has resulted in surficial staining with heavy petroleum hydrocarbons. This is a recognized environmental condition.

- A masonry boiler room was noted near the western border of the subject property. Due to miscellaneous debris in and around the room, ground surfaces were not readily observable.

- An approximate 1,650-square-foot metal garage/warehouse was locked and inaccessible during the site visit. An early 1980s photograph indicates the building was occupied by Tom Rose Trucking. The lack of access to this building and other structures on the property is a data gap.

- A railroad right-of-way is located on the northern property boundary. Historically the right-of-way included a spur that ran parallel to the right-of-way and serviced the former on-site feed mill operations. There are several potential environmental risks associated with railroad rights-of-way, including the usage of herbicides, pesticides, petroleum materials and related heavy metals (e.g., arsenic) to maintain the tracks, as well as the

potential spillage of hazardous materials from railcars. During the site visit, no obvious evidence of hazardous material spillage or contamination was observed along the section of railway adjoining the subject property, but it has been out of service for many years.

Phase II Environmental Site Assessment

A Phase II ESA was conducted by Pinnacle Environmental, Inc. on October 12, 2017 for the subject property (**Appendix F**). The Phase II ESA addresses recommendations from the Phase I and provides supplemental information to fill identified data gaps and further assess recognized environmental conditions. Below is a summary of the findings and recommendations from the Phase II ESA:

Northern Portion – Former Mill Structures

The geophysical survey and test pit analysis indicated evidence of historical burial of building debris (e.g., burned wood, concrete, septic tanks, etc.). The buried debris appears to be limited in areal extent, and most debris was located within the first 4 to 5 feet below the ground surface (bgs).

Soils that were observed with potential environmental impact were sampled for TPH, VOCs, SVOCs and metals. Analytical data indicated pockets of low concentrations of TPH-diesel impacted soils within a few of the test pit excavations. The encountered soils and analytical results do not suggest any significant releases of petroleum hydrocarbons to subsurface soils. No specific source of organic or inorganic constituents of concern were encountered that would cause significant groundwater impacts.

Future site development activities (e.g., grading) will likely encounter areas of buried building debris and soils impacted with a low concentrations of petroleum hydrocarbons (e.g., TPHdiesel). A soil management plan will be necessary to segregate impacted soil and debris and address potential worker safety concerns.

Central Portion – Former AST Compound and Truck Scale Area

Soil data collected from the 35 soil borings advanced at the site in June and September 2017 identified no obvious source of impacts to the subsurface. Low concentrations of petroleum hydrocarbon impacts and BTEX constituents were detected in shallow soil matrix samples collected in the vicinity of SV-1, SV-2, and SV-19. These borings are located northeast of the former AST enclosure and south of the former mill structures.

Soil vapor data indicate concentrations of BTEX constituents northeast of the former AST enclosure. These concentrations are above California Human Health Screening Levels (CHHSLs) for residential properties which is proposed for the site.

The specific source of the petroleum hydrocarbon noted on the subject property is unknown. However, based on the data collected during this assessment, there appears to be a potential source (possibly a former UST) located northeast of former AST enclosure and south of truck repair awning. The analytical data and observations of soil conditions in this area indicate that remediation (e.g., source removal/excavation) will likely required prior to or during site development activities.

An anomalous concentration of benzene was observed in one grab groundwater sample, SB-5, at concentrations of 864 ug/L. In September 2017, a shallow soil/soil vapor boring (SV-7) in the vicinity of SB-5 was completed. No field observations of soil impacts were noted in SV-7 and no soil vapor was detected in the vapor sample collected 5 feet bgs. Upgradient grab-groundwater sample SB-3 and downgradient groundwater results from MW-6 and MW-7 detected no concentrations of benzene or other petroleum hydrocarbons constituents. Therefore, the impact detected in the grab-groundwater sample from SB-5 appears to be very localized

Groundwater within the central area of the subject property is slightly impacted with low concentrations of 1,2-DCA. In June 2017, the highest concentrations of 1,2-DCA were noted in grab-groundwater sample SB-6 at 18.1 µg/L and in site monitoring well MW-5 at 17.4 µg/L. The analytical data indicates that the 1,2-DCA impact is localized on the subject property, with significantly reduced or non-detectable concentrations noted in downgradient wells MW-4 and MW-6. Subsequent groundwater sampling of site monitoring wells in September 2017 indicated reduced concentrations of 1,2-DCA from the June 2017 data from wells MW-4 and MW-5, and no detected concentrations

of 1,2-DCA in MW-6. The detected 1,2-DCA concentrations have been above the California MCL of 0.5µg/L. However, detected 1,2- DCA concentrations from the downgradient monitoring wells in September 2017 were generally at or below the vapor intrusion environmental screening level (ESL).

Constituents of concern (TPH, BTEX, and 1,2-DCA) have been noted in groundwater beneath the site. The detected concentrations of these constituents during the September 2017 groundwater sampling event are below California MCLs for all VOCs other than 1,2-DCA. The results do not suggest a need for an active remedial action program to address groundwater impacts. Based on the data collected to date, two additional quarterly rounds of groundwater monitoring are recommended to further assess groundwater concentrations.

The detected concentrations of 1,2-DCA during the September 2017 groundwater monitoring event were on the order of or below the ESL for vapor intrusion from shallow groundwater in a residential setting. The results of the soil vapor survey confirm that vapor intrusion from underlying 1,2-DCA impacted groundwater should not be an issue for site redevelopment, as 1,2-DCA was not detected in any of the 20 soil vapor samples collected during the investigation.

Southern Portion – Undeveloped

The historical information reviewed for this investigation indicates no significant structural or industrial use of the southern portion of the property. The primary historical use identified has been the relatively recent use of the perimeter of this portion of the site for truck/trailer parking. Groundwater data did not indicate impacts at MW-7, the southernmost monitoring well installed at the site. Shallow soil data on this portion of the site indicate surficial impacts of shallow soils with petroleum hydrocarbons in the range of motor oil.

The history and data indicate no significant environmental concern on the southern portion of the property. Therefore, this portion of the property does not require additional assessment. However, there remains a possibility that future site development activities (e.g., grading) will encounter soils impacted with low concentrations of petroleum hydrocarbon (e.g., TPH-motor oil). A soils management plan will be necessary to segregate impacted soil and debris and address potential worker safety concerns.

EnviroStor and GeoTracker Database Search

A search of EnviroStor, showed no active cleanup sites within the project vicinity. A search of GeoTracker, showed one closed “Cleanup Program Site” and one open “Cleanup Program Site” undergoing remediation as of December 29, 2017. Both records are associated with the subject property proposed for the Corona Station Residential Project.

320 Corona Road

One closed “Cleanup Program Site” is located at 320 Corona Road. The substances released/contaminants of concern included: benzene, diesel, gasoline, other petroleum, toluene, xylene, dichloroethane (DCA), and total petroleum hydrocarbons (TPH). Sources included AST, UST, piping, and former fuel islands, all of which were formerly removed. Site investigations (including soil, soil vapor, and groundwater sampling activities) indicate that this parcel was not impacted by petroleum hydrocarbon contamination and is suitable for unrestricted use. The case was closed on November 6, 2018.

890 North McDowell Boulevard (Subject Property for Corona Station Residential)

One open “Cleanup Program Site” (Corona Station) is located at 890 North McDowell Boulevard; additional addresses associated with the subject property include 320 Corona Road and 910 North McDowell Boulevard. The property was previously used as a feed mill facility from at least the 1940s through the early 1980s. The mill structures were destroyed by fire in the 1980s. The property has more recently been utilized by a wooden truss construction company and for truck parking purposes. Truck fueling and minor truck maintenance operations have also been conducted at the site. Site investigations indicated impacts from petroleum hydrocarbons and benzene, toluene, ethylbenzene, and xylenes (BTEX) in shallow soil samples collected in the central portion of the site, in the vicinity of a former above ground storage tank (AST) compound, fueling pump islands, and truck scale.

As part of ongoing remediation occurring at the subject property, the following documents have been prepared by Pinnacle Environmental Inc. and submitted to the San Francisco Regional Water Quality Control Board (RWQCB):

- Soil Excavation Workplan – December 15, 2017
- Fourth Quarter 2017 Groundwater Monitoring Report – December 18, 2017
- First Quarter 2018 Groundwater Monitoring Report – March 30, 2018
- Second Quarter 2018 Groundwater Monitoring Report – March 30, 2018
- Soil Excavation Report – August 7, 2018
- Third Quarter 2018 Groundwater Monitoring Report – September 4, 2018
- Fourth Quarter 2018 Groundwater Monitoring Report – January 2, 2019
- Water Board Approval of Soil Vapor Assessment Work Plan – August 27, 2019

As stated in the Soil Excavation Report, soil excavation activities were conducted in June 2018 at the subject property to remove on-site soils impacted with the constituents of concern to concentrations below residential screening levels. A total of approximately 3,811 cubic yards of soil was excavated from the various excavations across the site. Of this total, approximately 638 cubic yards of soil was re-used on site based on analytical results from confirmation soil samples and on observations of soil conditions. The remaining approximately 3,173 cubic yards of excavated soil was transported offsite to Potrero Hills Landfill for use as daily cover material.

The RWQCB requested soil vapor confirmation sampling results and locations on September 6, 2018, in order to move towards case closure. On August 27, 2019, the Water Board issued approval of the workplan for the soil vapor assessment.

Summary of Clean Up Activities and Remediation Status

Due to past uses on the project site and known soil contamination, there have been a number of investigations, remediation and cleanup activities over the past couple of years. Currently (September 2019), the Cleanup Status remains "open," but case closure is expected towards the end of 2019. The soil vapor assessment, recently completed, is a final action to verify effectiveness of the remediation efforts. A case closure report is currently in process and is expected to be submitted to the Regional Water Quality Control Board in October 2019.[14]

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 environmental through the routine transport, use, or disposal of hazardous materials. There are no elements of the residential project that require the routine transport, use or 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 also includes landscaping, which may involve application and storage of regulated chemicals, fuels, and related products. Potentially hazardous materials such as common household products and landscaping supplies may be transported to the project site in small quantities intended for consumer use. Additionally, materials are required to be handled, transported and stored in manner that is in compliance with all existing federal, state and local regulations. Therefore, impacts from the project due to routine transport of hazardous materials and hazardous waste will be less than significant.

4.9 (b) (Upset and Accident Involving Release) Less Than Significant Impact with Mitigation: Site preparation and construction activities will result in the temporary presence of potentially hazardous materials including, but not limited to fuels and lubricants, paints, solvents, insulation, electrical wiring, and other construction related materials onsite. Although these potentially hazardous materials may be present onsite during construction, the applicant is required to comply with all existing federal, state and local safety regulations governing the transportation, use, handling, storage and disposal of potentially hazardous materials. Once construction is complete there will not be any ongoing use or generation of hazardous materials onsite.

As described above, multiple RECs were identified on the subject property. Although the above-ground buildings were removed between May 9 and June 19, 2018, and contaminated soils were removed from the site in June

[14] Personal communication with Peter Cloven, Pinnacle Environmental, Inc., September 23, 2019.

2018,[15] there is still a possibility that contaminated soils and groundwater may be encountered during construction activities. The applicant is required to comply with all existing federal, state and local safety regulations governing the transportation, use, handling, storage and disposal of potentially hazardous materials. Prior to the commencement of site preparation, a Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) will be prepared and implemented during all construction activities (see also Section 4.9 Hydrology and Water Quality). Additionally, the applicant shall prepare and implement a Risk Management Plan and Health and Safety Plan as required by **Mitigation Measure HAZ-1**, which will ensure that any contaminated soils and groundwater encountered are handled in a manner that precludes exposure of construction workers and future residents to elevated concentrations of hazardous substances, including odors from those substances. With implementation of Mitigation Measure HAZ-1, potential impacts associated with the release of hazardous materials into the environment will be reduced to levels below significance.

4.9 (c) (Emit or Handle Hazardous Materials Within ¼ Mile of School) No Impact: The project site is not located within a quarter mile of a school. The nearest school, Meadow Elementary School, is located approximately 0.4 mile east of the project site. As a residential land use, the project would not emit or handle hazardous materials capable of impacting the school. Therefore, no impacts related to the emission or handling of hazardous, or acutely hazardous materials, within one-quarter mile of an existing or proposed school are expected.

7.9(d) (Existing Hazardous Material Sites) Less Than Significant with Mitigation: The California Environmental Protection Agency (CAL-EPA) annually updates the California Hazardous Waste and Substances Site List (also known as the "Cortese List"). The Department of Toxic Substances Control (DTSC) compiles a record of sites to be included on the list, which is then submitted to the CAL-EPA.

As part of the Phase I ESA, Pinnacle Environmental, Inc. conducted a database review of the project site. V Dolan Trucking at 320 Corona Road is listed as a RCRA-non generator in March 1988. No specific hazardous materials were noted for this tenant. No violations or releases were reported. Based on the limited information and lack of reported release, this listing is not considered an REC.

Presently (September 2019), Geo-Tracker shows one closed "Cleanup Program Site" and one open "Cleanup Program Site" undergoing remediation as of December 29, 2017 for the subject property As discussed above, the project site has been undergoing remediation with oversight by the San Francisco Bay Water Board.[16] Remediation efforts are nearly complete with case closure expected to be granted towards the end of 2019. All environmental screening levels to meet residential standards will be achieved prior to the Water Board issuing case closure confirmation. Given the site's past contamination record and although case closure is expected to be granted, there remain the potential that buried contamination may be encountered during construction activities. In order to ensure that construction workers and future residents are fully protected **Mitigation Measure HAZ-1,** which requires the preparation and implementation of a Risk Management and Health and Safety Plan, shall be implemented. Measure HAZ-1 will ensure that the project will not create a significant hazard to the public or the environment by virtue of it being located on an identified Cortese site. Therefore, potential impacts will be reduced to levels below significance.

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 east 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 provide connectivity to the existing circulation and street system. Therefore, the proposed Project will have no impact on the emergency response plan or emergency evacuation plan.

4.9 (g) (Wildland Fire) Less Than Significant Impact: Wildland fires are of concern particularly in expansive areas

[15] Soil Excavation Report, 890 North McDowell Boulevard and 320 Corona Road, prepared by Pinnacle Environmental, Inc., August 7, 2018.

[16] Personal communication with David Tanouye, Engineering Geologist, Groundwater Protection Division, San Francisco Bay Water Board, regarding Case # 49S0044, October 11, 2019.

of native vegetation of brush, woodland, grassland. The project site is categorized as a Non-VHFHZ by CAL FIRE and surrounded by roadways and urban uses (**Figure B-6** in **Appendix B**). Therefore, impacts related to the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires will be less than significant.

Mitigation Measures:

HAZ-1: Prepare and implement a Risk Management Plan and Health and Safety Plan that protects construction workers and provides the procedures to properly manage contaminated soil and groundwater that may be encountered during construction activities. The Plan shall address procedures for discovery of any known or unknown features or environmental conditions that may be encountered during construction activities and proper disposal methods for contaminated materials. The Plan shall include, but not be limited to the following components:

- **Verification of Compliance**: Prior to issuance of a grading permit, the applicant shall submit for review and approval by the City of Petaluma, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the Sonoma County Department of Health Services, have granted all required clearances and confirmed that all applicable standards, regulations and conditions for all previous contamination at the project site.

- **Soil management:** Provide guidelines for identification and analysis of known (per Phase I ESA and Phase II ESA prepared by Pinnacle Environmental, Inc.) and unknown environmental conditions and define responsibilities for management of discovery of known and unknown features or site conditions.

- **Groundwater management:** Groundwater encountered during construction shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Petaluma, the RWQCB and/or Sonoma County Department of Health Services. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into buildings. Prohibit use of groundwater encountered during construction activities for dust control and allow discharge of groundwater to surface waters only pursuant to a permit issued from applicable regulatory agencies. All permit conditions must be satisfied prior to discharge.

- **Health and Safety plan**: Preparation and implementation of a site-specific Environmental Health and Safety Plan by the general contractor to ensure that appropriate worker health and safety measures are in place during construction activities. Elements of the plan must include all practices and procedures necessary to comply with all new and existing Federal, California, and local statutes, ordinances, or regulations regarding health and safety. Specific components of the Plan must include the following:

    - Identification of site hazards potential hazardous substances/materials that could be encountered, including potential odors associated with hazardous substances/materials;

    - Assignment of specific health and safety responsibilities for site work;

    - Establishment of appropriate general work practices;

    - Establishment of control zones and decontamination procedures;

    - Job hazard analysis / hazard mitigation procedures;

    - Required personal protective and related safety equipment; and

    - Contingency and emergency information.

- **Proper Removal of Buried Equipment:** Any buried holding tanks including septic systems shall be

properly decommissioned in accordance with applicable regulations established by the County of Sonoma. Removal of underground tanks shall be immediately followed by backfill in accordance with Engineering recommendations. Materials shall be properly disposed of at permitted facilities.

4.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern on the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☐
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR; Our Coast Our Future; Federal Emergency Management Agency's Flood Insurance Rate Map, Map Numbers 06097C0893F and 06097C0894F, December 19, 2014; CSW/Struber-Stroeh Engineering Group, Inc., Preliminary Hydrology Study, prepared November 30, 2018; CSW/Struber-Stroeh Engineering Group, Inc., Preliminary Stormwater Control Plan, November 26, 2018; and Site Plans, March 2019.

Hydrology and Water Quality Setting

Regulatory Setting

Section 402 of the Clean Water Act regulates the discharge of pollutants to waters of the U.S. Locally, this is implemented through the National Pollution Discharge Elimination System (NPDES) General Permit. Requirements apply to the project's construction activities (e.g., grading, grubbing, and other site disturbance). The City of Petaluma collects Storm Drainage Impact Fees as a means of mitigating storm drainage impacts occurring as a result of development. The City may accept payment of fees or the construction of on- or off-site detention areas, based upon the type of project and amount of runoff generated, as calculated for a 100-year storm. Fees collected are used by the City for the acquisition, expansion, and development of storm drainage infrastructure.

New development, including the proposed Corona Station Residential Project, is required to mimic pre-developed conditions, protect water quality, and retain runoff from impervious surfaces introduced onsite. Chapter 15.80 of the City's Municipal Code regulates stormwater discharges. Grading and erosion control requirements are set forth in Chapter 17.31 of the Municipal Code. Low Impact Development (LID) requirements establish limitations on the stormwater runoff emanating from development sites.

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

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

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

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

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

B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

D. Controlling filling, grading, dredging, and other development which may increase flood damage; and

E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas."

As described in Section 6.040 of the IZO, all areas within the boundaries of the "Area of Special Flood Hazard" but outside the "Floodway" areas are zoned to the Flood Plain/Flood Prone Area – Combining District (FP-C). The FP-C (Flood Plain – Combining District) applies to a majority of the subject property. Section 6.070(D) of the IZO contains regulations related to residential construction within a FP-C zone, and states:

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

Review of Federal Emergency Management Agency's Flood Insurance Rate Map panels numbered 06097C0893F and 06097C0894F, shows that a majority of the project site is located within Zone AE (Special Flood Hazard Area), which is subject to 100-year flooding with base flood elevations between 32 and 35 feet. Other portions of the site are located within Zone X, which is subject to 0.2 percent annual chance of a flood hazard, or 500-year flood (**Figure B-7** in **Appendix B**).

Existing Conditions

The terrain of the project site is flat with a 0.5% slope across the property, with higher elevations in the north and lower elevations in the south. The project site currently lacks formal storm drain infrastructure and stormwater sheet flows from the site.

Approximately 0.17 acre of the site drains to the east into the ditch within the railroad right-of-way and running parallel to the railroad. The railroad ditch flows to the south into Corona Creek. Approximately 0.82 acre of the site drains to the curb and gutter in Corona Road and is intercepted by the storm drain system in Corona Road. This system discharges into a drainage ditch on the opposite side of Corona Road from the project site. After passing under North McDowell Boulevard through a culvert, the drainage ditch continues to the southwest along Corona Road. At Highway 101, runoff from the drainage ditch is intercepted by an underground storm drain system which conveys and discharges runoff into the Petaluma River on the north side of Corona Road.

Runoff from the remainder of the site is intercepted by a storm drain system in North McDowell Boulevard which flows south along North McDowell Boulevard and discharges into a culvert. After exiting the culvert under North McDowell Boulevard, Corona Creek daylights and flows through open channels to the eastern edge of Highway 101 where it is intercepted and then conveyed by culvert to the west side of Highway 101. After being discharged to the west side of Highway 101, Corona Creek continues as an open channel until it discharges into the Petaluma River.

Groundwater was encountered at approximately 8 to 10 feet below the ground surface. A review of onsite monitoring well data indicated groundwater was measured at the site between 6.5 and 7.5 feet below the existing site surface.[17]

Hydrology and Water Quality Impact Analysis

4.10 (a) (Water Quality Standards) Less Than Significant Impact with Mitigation: The mandatory requirements of the NPDES General Permit apply to the project's construction and post-construction stormwater discharges. Prior to construction, the project applicant is required to file for coverage under the State Water Resources Control Board (SWRCB), Order No. 99–08–DWQ, NPDES General Permit No. CAS000002 for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit). Petaluma is also covered under the Phase II Small MS4 general permit dated July 1, 2014, Order # 2013-001 DWQ for post construction water regulations.

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

The NPDES General Permit also includes performance standards for post-construction that are consistent with State Water Board Resolution No. 2005-0006, "Resolution Adopting the Concept of Sustainability as a Core Value for State Water Board Programs and Directing Its Incorporation," and 2008-0030, "Requiring Sustainable Water Resources Management." In short, standards require all construction sites to match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained. This "runoff reduction" approach is analogous in principle to Low Impact Development (LID) and serves to protect related watersheds and water bodies from both hydrologic-based and pollution impacts associated with post-construction conditions.

As described in the Project's Preliminary Hydrology Study and Stormwater Control Plan (**Appendix G**), under proposed conditions, runoff from the majority of the impervious areas on site, including roofs and paved areas, will be routed to landscaped and bio-retention areas throughout the site, allowing for pre-treatment and retention, prior to being discharged to new storm drains within the project site, and conveyed to the existing storm drain system in North McDowell Boulevard. With implementation of water quality control and wastewater discharge standards, including as they may be refined under the mandatory provisions of the NPDES General Permit, along with the

[17] Geotechnical Investigation, prepared by Stevens, Ferrone & Bailey, Engineering Company, Inc., August 28, 2018.

SWPPP, the subject project will have less than significant impacts relative to water quality standards or the degradation of surface or groundwater quality.

According to the Soil Investigation Report, groundwater was encountered at approximately 8 to 10 feet below the ground surface. As such, ground disturbance has the potential to encounter groundwater and may require dewatering during construction activities. As discussed in Section 4.9 Hazards/Hazardous Materials, contaminated groundwater may be encountered during construction activities. The discharge of construction dewatering could result in increased sediment loads and other pollutants to the storm drain system, which could impact water quality if not properly controlled. Accordingly, **Mitigation Measure HAZ-1** requires that the discharge of groundwater to surface waters shall only be allowed pursuant to a permit issued from applicable regulatory agencies. All permit conditions must be satisfied prior to discharge. With implementation of a SWPPP and Mitigation Measure HAZ-1, potential impacts to water quality including dewatering activities, are reduced to levels below significance.

4.10 (b) (Groundwater Supply and Recharge) Less Than Significant Impact: The City of Petaluma has historically used surface water, groundwater, and recycled water supplies to meet customer demands. The near-term supply strategy of the 2015 Urban Water Management Plan (UWMP) relies on surface water from the Sonoma County Water Agency (SCWA) and recycled water from the City's Ellis Creek water recycling facility. Groundwater is identified as a backup water supply source through the year 2040.

The City of Petaluma does not rely on groundwater as a significant portion of supply due to specific yield and water quality limitations. Since 2000, groundwater has only been used for peak water demand needs or to minimize short-term supply cost impacts to customer rates. For example, in 2010, only six (6) of the existing twelve (12) active wells were used for production. Many of the groundwater wells are inactive due to low yields, poor water quality, or deteriorating well conditions. The active wells range in production from approximately 100 gallons per minute (GPM) to 1,063 GPM.

From 2004 to 2006, the City of Petaluma reduced its groundwater use to zero. However, groundwater use was increased in 2007 and 2008 due to a temporary surface water supply shortage from SCWA financial operational constraints. Between 2011 and 2015 groundwater was used to supplement other water supplies sources. The 2015 UWMP states that the City of Petaluma intends to only use groundwater in the future as emergency backup supply, to meet peak demands, or other short-term scenarios.

Water demand from the subject project is accounted for in the General Plan EIR and water demand projections of the 2015 UWMP. All development onsite will be subject to the latest standards for water conservation and water use efficiency including indoor and outdoor water use.

Based on the above, and in accordance with the 2015 UWMP, the City of Petaluma has adequate water supply resources to accommodate development of the project without depleting, degrading or altering groundwater supplies or interfering substantially with groundwater recharge. The project would not result in the lowering of the aquifer or the local groundwater table. The project's water demands are consistent with water demands evaluated in the 2015 UWMP, which found sufficient water supplies are available to meet existing and future development within the UGB. Groundwater reserves will not be depleted due to the proposed development. Therefore, potential impacts to groundwater will be less than significant.

4.10 (c.i-iii) (Drainage Pattern – erosion, surface runoff) Less Than Significant Impact: The project would not alter the course of a stream or river. The project is adjacent to Corona Creek. However, the proposed buildings closest to Corona Creek will be set back approximately 60 to 64 feet from the top of bank. Drainage from the site flows from the northeast corner, near Corona Road, toward the southeast corner of the site, near North McDowell Boulevard and Corona Creek. The site is mostly covered with compacted soil and aggregate and limited vegetative cover. Stormwater runoff sheet flows across the site towards North McDowell Boulevard and over the sidewalk into the adjacent curb and gutter and into the municipal storm drain system.

The project proposes redevelopment of the site, which contains approximately 184,346 square feet of impervious surfaces under existing conditions. The total post-project impervious surface area will be approximately 90,008 square feet. As previously stated, the stormwater from the new buildings and other impervious surfaces would be collected and routed to landscaped and bio-retention areas throughout the site, allowing for treatment and retention. The bio-retention areas are designed to remove sediment from surface flows thereby preventing erosion

and siltation from entering water ways. Stormwater drain from bioretention basins via new onsite storm drains and conveys flows to the existing storm drain system in North McDowell Boulevard.

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

4.10 (c.iv) (Drainage Pattern – impede or redirect flood flows) Less Than Significant Impact: A majority of the project site is located within Zone AE (Special Flood Hazard Area), which is subject to flooding during a 100-year storm event with base flood elevations between 32 and 35 feet. Other portions of the site are located within Zone X, which is subject to 0.2 percent annual chance of a flood hazard, or 500-year flood (**Figure B-7** in **Appendix B**). The proposed project will alter the current sheet flow drainage pattern through the addition of structures, roads, and other impervious surfaces that could impede or redirect flood flows. However, redevelopment of the site would reduce impervious surfaces by 94,338 square feet (184,346 minus 90,008) and includes new stormdrain infrastructure onsite, and landscaped and bio-retention areas, which would accommodate any redirected flood flows. Further, as discussed under 4.10 (c.iii), peak flow rates for the 10- and 100-year storm recurrence intervals can remain at or below pre-project conditions, through project design. Therefore, the project will not substantially impede or redirect flood flows and impacts will be less than significant.

4.10 (d) (Flood Hazard, Tsunami, Seiche Zones) Less Than Significant Impact with Mitigation: The project site is located in a flood hazard area subject to inundation under the 100-year storm event. As such, the project will introduce people, structures, property, and other infrastructure into a flood hazard area.

Per Section 6.070(D) of the IZO, new residential structures permitted in FP-C (Flood Plain-Combining) zones shall have the lowest habitable floor, including basement, elevated at least 12 inches (1 foot) above the level of the base flood elevation (32 and 35 feet) or depth number specified on the FIRM. As shown in the Preliminary Grading and Drainage Plan (sheet C3.1 and C3.2), the buildings located within areas subject to 100-year flooding would have finished floor elevations ranging from 34 to 36 feet, which would meet the City's requirements (Section 6.070(D) of the IZO). Nonetheless, to ensure compliance with the City's requirements in Section 6.070(D) of the IZO, **Mitigation Measure HYDRO-1** shall be implemented, which requires that a registered professional engineer or surveyor, certify that the finished floor elevated are sufficiently elevated from the base flood level. Compliance with Section 6.070(D) of the IZO and implementation of HYDRO-1, reduces potential impacts due to flood hazard to levels below significance.

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

4.10 (e) (Conflict with Water Quality Control or Sustainable Groundwater Management Plans) Less than Significant Impact: The project will not conflict with a water quality control plan or a sustainable groundwater management plan. As described above, the project includes landscaped and bio-retention areas that will minimize runoff, reduce sedimentation and protect water quality. Additionally, mitigation measures set forth herein further provide for protection of water quality during construction and at operation. The City of Petaluma is in the process of developing a Groundwater Sustainability Plan, which must be prepared by 2022 in accordance with the Sustainable Groundwater Management Act (SGMA). As no Groundwater Management Plan has been developed, the project will not result any conflicts to such a plan. Therefore, potential impacts will be less than significant.

Mitigation Measures:

HYDRO-1: Following construction of the residential buildings within the FP-C (Flood Plain – Combining District), and prior to occupancy, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator. As determined to be appropriate by the Floodplain Administered, the following standards may also be required:

1. All new improvements shall be anchored to present flotation, collapse, or lateral movement.
2. All new improvements shall be constructed with materials and utility equipment resistant to flood damage and using methods and practices to minimize flood damage.

3. All electrical, heating, air conditioning, ventilation, and plumbing shall be designed and located to prevent water from entering or accumulating within components during flooding.
4. All new construction and improvements shall insure that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. A minimum of two opening not less than one square inch for every square foot of enclosed area shall be provided.

4.11 LAND USE AND PLANNING

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

Sources: City of Petaluma General Plan 2025 and EIR; EIR Figure 3.1-2 Planning Subareas Plan; General Plan Figure i-4 Specific and Area Plans and Redevelopment Area; and City of Petaluma Implementing Zoning Ordinance (IZO).

Land Use Setting

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

The project site is located within the UGB, City limits, and the General Plan's North McDowell Boulevard subarea which consists of a mix of a commercial, industrial, business park complexes (featuring office and light industrial uses), mobile home parks, and one apartment complex. The project site exhibits a General Plan land use designation of Mixed Use (**Figure 3: General Plan Land Use**) and zoned MU-1B (Mixed Use 1B), as shown in **Figure 4: Zoning**.

Portions of the project site are within the 100-year flood hazard zone and has the overlay land use designation of FP-C (Flood Plain-Combining District), as defined by Section 6.040 of the IZO. This portion of the site is subject to the applicable policies and provisions of Chapter 6 of the City's IZO pertaining to floodplains.

Land uses adjacent to the subject property are designated as High Density Residential, Medium Density Residential, Mobile Homes, Mixed Use, Open Space (Corona Creek), and Public/Semi-Public. The SMART rail corridor abuts the site's northern boundary.

Land Use Impact Analysis

4.11 (a) (Divide an Established Community) No Impact: The project proposes the development of 110 residential units on an underutilized lot within the Corona/Eli Specific Plan (CESP), the North McDowell Boulevard subarea of the General Plan, and the City's Station Area Master Plan. The project is considered infill development in that it is surrounded by existing urban (residential, commercial, and industrial) land uses on all sides and is generally similar in scale and density to the surrounding development within the UGB.

Division of an established community typically occurs when a new physical feature, in the form of an interstate or railroad, physically transects an area, thereby removing mobility and access within an established community. The division of an established community can also occur through the removal of an existing road or pathway, which would reduce or remove access between a community and outlying areas.

The project is consistent with the established character of the surrounding area; is similar in scale and density to the residential development currently being constructed north of the project site (Brody Ranch); and is located adjacent to the planned Petaluma North (Corona) Station. As such, the project is not expected to divide an established community. Rather the proposed Corona Station Residential project will act as an extension of and reinforce the already established character and spatial organization that defines the subarea/CESP and its components. Therefore, the project will have no impacts due to physically dividing an established community.

4.11 (b) (Land Use Plan, Policy, Regulation Conflict) Less Than Significant Impact: The project is generally consistent with the Mixed-Use land use designation of the site in that it introduces a mix of housing products. The project includes a zoning text amendment for MU-1B in areas proximate to the SMART corridor, to allow single-family dwellings with a use permit. Currently, the MU-1B zone does not allow for single-family development, and allowance of multi-family development as a conditionally permitted use was recently added pursuant to Petaluma City Ordinance 2655 effective June 4, 2018. Ordinance 2655 amended the Implementing Zoning Ordinance (IZO) to more closely align with the General Plan's definition of Mixed Use that calls for a "robust combination of uses, including retail, residential, service commercial, and/or offices" while allowing for future discretionary review to determine suitability on a project by project basis. With approval of the proposed zoning text amendment, to allow single-family dwellings within the MU-1B district where proximate to SMART, and a conditional use permit to allow single-family dwellings, the project would conform to the City's Land Use and zoning regulations.

The project site is identified as Site #3 on the City of Petaluma Residential Land Inventory Opportunity Sites, Appendix E to the City of Petaluma 2015-2023 Housing Element, prepared December 2014. As described in the Housing Element, the Mixed-Use classification allows a density of up to 30 dwelling units per acre. The proposed Corona Station Residential project consists of 110 dwelling units within the net developable area (~4.25 acres), for a density of approximately 26 dwelling units per acre. As such, the proposed project is within the established density for the Mixed-Use General Plan land use designation.

The project site is located within the North McDowell Boulevard subarea and generally meets the intent of Policy 2-P-90 by creating a remainder parcel to be sold to SMART which would advance the goal of creating a transit station and by introducing high-density housing adjacent to the transit corridor. Further, the project fulfills Goal 2-G-14 by enhancing the function and aesthetic value of North McDowell Boulevard. The project supports Policy 2-P-88 in that it provides enhanced pedestrian and bicycle facilities to connect commercial uses to residential clusters. Last, as depicted in the Preliminary Landscape Plan, the project proposes drought tolerant vegetation and introduce new shade trees, thereby complying with Policy 2-P-94. Therefore, the project is consistent with the goals and policies within the North McDowell Boulevard subarea section of the General Plan.

General Plan Goal 4-P-1 strives to protect and enhance the Petaluma River and its tributaries. Policy 4-P-1D requires setbacks for all tributaries to the Petaluma River to extend a minimum of 50 feet outward from top of each bank; development shall not occur within this setback. The proposed new buildings nearest to Corona Creek will be set back approximately 60 to 64 feet from the top of bank. As such, the project is consistent with the General Plan regarding creek setbacks.

The subject project site is located within the Petaluma Station Area Master Plan and is adjacent to the planned Petaluma North (Corona) Station. The proposed project includes residential uses, a bus stop, a joint sidewalk and Class I bicycle facility along the site's frontage to North McDowell Boulevard, internal pedestrian paths throughout the site, and connections to the planned Petaluma North (Corona) Station and multi-use pathway. Furthermore, the project is conditioned to install a High Intensity Activated Crosswalk (HAWK) across North McDowell Boulevard proximate to the entryway of the existing Youngstown Mobile Home Park, consistent with Recommendation #6 (Access and Connectivity Enhancements) set forth in the Petaluma Station Area Master Plan. As such, the project supports the primary objectives of the Plan, which are to guide development that will support transit ridership and improve non-motorized connectivity between the station site and existing adjacent commercial, employment and residential areas.

The City's Bicycle and Pedestrian Plan identifies an existing Class II Bike facility (on-street, striped) along the frontage of the subject property on North McDowell Boulevard. The project proposes to construct a Class I – Off Street facility along the site frontage to North McDowell Boulevard. The Class I facility provide a grade separated path serving both bicycles and pedestrian. The Class I facility would be separated from North McDowell Boulevard by the edge of street curb and a narrow planting strip. As proposed the Class I facility would be approximately 10 feet in width and would connect to the existing 4-foot-wide sidewalks along North McDowell Boulevard to the east,

and along Corona Road to the north.

The City's Bicycle and Pedestrian Plan also identifies a proposed Class I Bike facility (off-street pathway that may be shared with pedestrians) between the project site boundary and the SMART rail line. The Multi-Use Path (MUP) is identified as Recommendation #2 in the Petaluma Station Area Master Plan. SMART is currently constructing portions of the MUP on the south side of Highway 101. The proposed project is designed to provide connections through the site to access the MUP once constructed. Additionally, the project would provide two inverted "U" bicycle racks per courtyard to accommodate bicycles parking, as well as bike hooks in each garage. Therefore, the project is consistent with the City's Bicycle and Pedestrian Plan and does not present any conflicts that would result in an environmental impact.

Per Section 6.070(D) of the IZO, new residential structures permitted in FP-C (Flood Plain-Combining) zones shall have the lowest habitable floor, including basement, elevated at least 12 inches (1 foot) above the level of the base flood elevation (32 to 35 feet) or depth number specified on the FIRM. As shown in the Preliminary Grading and Drainage Plan (sheets C3.1 and C3.2), the finished floor elevations for all onsite residences range from 34 to 36 feet, which meet the minimum elevation requirement. Furthermore, the project is required to comply with all provisions of the IZO relating to the FP-C zone. As such, the project does not introduce a conflict with Section 6.070(D) of the IZO.

Other potential conflicts with City land use regulations are discussed within other sections of this IS/MND (Aesthetics, Air Quality, Biological Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Noise, and Transportation). Mitigation measures to avoid or minimize potential conflicts with City land use regulations are identified therein. Therefore, environmental impacts due to a conflict with City land use regulations will be less than significant.

Mitigation Measures: None required beyond those identified in the Aesthetics, Air Quality, Biological Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Noise, and Transportation sections.

4.12 MINERAL RESOURCES

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

Sources: City of Petaluma General Plan 2025 and EIR.

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

Mitigation Measures: None required.

4.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent	☐	☒	☐	☐

	increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Sources: City of Petaluma General Plan 2025 and EIR; City of Petaluma Implementing Zoning Ordinance (IZO); Environmental Noise Assessment, prepared by Illingworth & Rodkin, July 21, 2018; and Traffic Impact Study, prepared by W-Trans July 2, 2019.

Noise Setting

Noise is generally defined as unwanted sound. It is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. The decibel (dB) scale is used to quantify sound intensity, given that the human ear is not equally sensitive to all frequencies in the entire spectrum, noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels". In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling the sound level.

The City of Petaluma regulates the noise environment through Section 21.040 of the Implementing Zoning Ordinance (IZO). The IZO stipulates an hourly average level of 60 dBA as the maximum that may be generated from 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 (Ldn or CNEL) and conditionally acceptable up to 70dB (Ldn or CNEL) The Noise Contours Figure 10-1 indicates that noise levels at the site are projected to be 65 dB CNEL at General Plan build out, therefore the proposed residential project is considered conditionally acceptable.

Noise Conditions: Project Site

The existing noise environment at the project site is primarily caused by vehicular traffic on North McDowell Boulevard and rail trips along the North-West Pacific Railroad (NWPRR) line, operated by Sonoma Marin Area Rail Transit (SMART). It should be noted that SMART operations which pass by the site are within a quiet zone, and therefore the train horn is not routinely sounded in this area. Other noise contributing sources near the project site include day to day operation of nearby residential uses, construction at the nearby Brody Ranch development, and overhead air traffic. A project level Noise Assessment was prepared for the subject project (**Appendix H**). Noise monitoring survey was conducted between 11:00 a.m. on Friday, July 13, 2018 and 2:00 p.m. on Monday, July 16, 2018. The survey was conducted to quantify the existing noise environment at the project site, and included two long-term noise measurements, and one short-term measurement. One long-term noise measurement location was positioned adjacent to the SMART rail line (LT-1) and the other along North McDowell Boulevard (LT-2). The short-term noise measurement location was also positioned along North McDowell Boulevard (ST-1) (See Figure 1 in Appendix H for noise measurement locations). Results of the noise survey are shown in **Table 10**.

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

Noise Measurement Location	Lmax	L(1)	L(10)	L(50)	L(90)	Leq	CNEL
ST-1: Approximately 65 feet from the centerline of N. McDowell Blvd.	74	72	70	66	60	67	70[1]
LT-1: Approximately 250 feet from the centerline of N. McDowell Blvd.	50	59	58	56	54	56	61
LT-2: Approximately 40 feet from the centerline of N. McDowell Blvd.	81	79	76	72	65	73	74

Source: Environmental Noise Assessment, Illingworth & Rodkin, June 15, 2018.

[1] The Ldn at ST-1 is approximated by correlation to the corresponding measurement at LT-1 and LT-2

Noise Impact Analysis

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

Construction Noise

The City's Noise Ordinance establishes standards to minimize the temporary noise impacts associated with construction, such as limitations on the time of day and day of the week when construction activities are acceptable. Construction of the project would result in temporary noise disturbances that could potentially impact nearby sensitive receptors due to the site's proximity to surrounding residential development. Noise impacts resulting from construction of the project depend upon noise generated by various types of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of day such as early morning, evening, or nighttime hours, when the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction occurs over extended periods of time.

Construction of the proposed project would result in temporary and intermittent noise increases onsite and in the project vicinity from the use of heavy equipment, truck deliveries and off-haul of materials. Construction noise associated with the proposed project would be perceptible to established uses in the immediate vicinity. Construction of the proposed project is anticipated to occur over a 15-month period and would commence with site preparation and grading activities, which will include removal of gravel surfaces and grubbing to remove vegetation and trees.

Construction equipment expected to be utilized includes tractors, backhoes, haul trucks, graders, pavers, cranes, water trucks and other heavy-duty construction equipment. Most demolition and construction equipment generate noise in the range of 80 to 90 dBA at a distance of 50 feet from the source. The nearest noise sensitive uses (existing residences) are located 130 feet south of the closest project construction activities, on the south side of North McDowell Boulevard. At this distance, noise resulting from typical construction activities would reach 79 dBA. Noise levels would drop off at a rate of 6 dBA per doubling of distance between the noise source and receptor. Therefore, nearby sensitive receptors will be intermittently exposed to high levels of noise during periods of nearby construction.

Although nearby residents will be exposed to elevated noise levels from construction, exposure is intermittent and temporary and will cease once construction is complete. At a minimum, the project is required to adhere to the standards set forth in Section 21.040.A.3.a of the City's Implementing Zoning Ordinance. Given the site's proximity to existing residents, **Mitigation Measures NOI-1**, which requires use of standard noise controls shall be implemented. Implementation of NOI-1 will reduce the project's impact related to noise generated by temporary construction activities to less than significant levels.

Permanent Increase in Ambient Noise Levels

At operation, the proposed project would contribute to the ambient noise environment from occupation of the residential units as well as additional vehicles traveling on roadways. Noise resulting from occupation of the project by residents will generate noise typically associated with residential areas such as people talking, dogs barking, children playing, and home maintenance activities. Noise generated by the project will be compatible with surrounding uses and therefore will result in a less than significant impact with regard to operational noise.

Traffic noise generated by the project would have a significant impact if it would substantially increase noise levels at sensitive receptors in the vicinity. A substantial increase would occur if traffic resulting from the project would increase noise levels by 4 dBA CNEL or greater. To increase the noise along area roadways by 4 dBA or greater, the project would have to double the current traffic volumes. Using the trip generation rates identified in the Traffic Impact Study prepared by W-Trans, as well as the revised project scope which includes construction of 110 single-family dwellings, the project is expected to generate 986 new trips per day, of which 77 are expected to occur during the a.m. peak hour and 103 during the p.m. peak hour. Given the size of the project and the current amount of traffic on nearby roadways (19,758 average daily trips (ADT) on North McDowell Boulevard and 13,164 ADT on Corona Road), the project is not expected to generate an increase in traffic approaching or doubling the existing amount. Therefore, the increase in traffic noise generated by the project would be below the noise significance criteria for permanent noise increases. As such, the project's contribution to the existing ambient noise levels from increased traffic would result in a less than significant impact.

Noise and Land Use General Plan Consistency of Proposed Sensitive Uses

At operation, the proposed project would introduce new residents, which are considered sensitive noise receptors, to the subject property, which is located adjacent to linear noise sources (SMART corridor, Corona Road, and North McDowell Boulevard). Exposure of project residents to existing noise levels is not considered an environmental impact because ambient noise levels are not caused by the project, but rather are a product of the existing environment and current condition. Exposure of new residents to elevated community noise levels is provided for informational purposes to determine land use compatibility.

The future noise environment at the project site due to external sources including vehicular traffic on North McDowell Boulevard and trains have the potential to expose residents to noise levels identified in the General Plan as "conditionally acceptable" and "normally unacceptable".

Private outdoor areas of residence located directly adjacent to North McDowell Boulevard would be exposed to noise levels of up to 71 dBA CNEL, whereas City standards identify 60 dBA or below as the threshold for residential uses. To maintain compatibility with the City's General Plan, **Recommendation NOI-2** is provided, which identifies a noise barrier to protect private outdoor spaces and ensure that future residents are not exposed to noise levels that exceed City standards. Per the site plan, acoustical fencing and gates are depicted demonstrating compliance with this recommendation.

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. As described previously, residential units adjacent to or with a direct line of sight to North McDowell Boulevard will be exposed to exterior noise levels of 71 dBA. Considering the exterior to interior noise reduction provided by typical construction, residential units would be exposed to noise levels between 46 to 56 dBA with windows closed and open, respectively. **Recommendation NOI-3** provides for sound rated windows, doors and construction methods to achieve exterior to interior noise attenuation.

The SMART train currently operates seven days per week and includes 17 weekday a.m. and p.m. trips occurring between 4:20 a.m. and 9:45 p.m. and on weekends, 10 trips occurring between 10:15 a.m. and 10:00 p.m. As shown in Table 10, above, long-term noise measurement location LT-1 was used to capture noise generated by operation of the SMART train. The analysis found that Lmax noise levels reached 81 dBA, whereas the CNEL noise levels for this measurement location were 61 dBA. Future operation of the SMART train adjacent to the project site anticipates a new station, which would increase the amount of time each train spends in close proximity to the site. However, the speed of the trains passing the project site would decrease which would in turn decrease the maximum noise level produced by passing trains. It is anticipated that the average noise level would have negligible or no net change from existing conditions. **Recommendation NOI-4** will reduce interior noise levels of residences located adjacent to the rail line to less than the recommended 55 dBA Lmax for interior residential environments. The project would not introduce a potential conflict due to siting new sensitive receptors in an area with elevated noise levels.

4.13 (b) (Groundborne Vibration and Noise) Less Than Significant Impact: Construction activities would include site preparation work such as grading and the installation of utilities, foundation work, and new building framing. Construction techniques that generate the highest vibration levels, such as impact or vibratory pile driving, are not anticipated to be used in the construction of the project. Construction activities would generally occur at distances of 200 feet or more from the nearest residential units, however, activities near the southern portion of the project site will be as close as 130 feet from existing residential units.

The California Department of Transportation uses a vibration limit of 0.5 in/sec, PPV for buildings structurally sound and designed to modern engineering standards. For structures which are sound, but where structural damage is a major concern, a vibration limit of 0.2 in/sec PPV is used. Exceeding these thresholds would likely result in structural damage to nearby buildings.

Project construction activities such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. Building framing, exterior and interior finishing, and landscaping activities are not anticipated to be sources of substantial vibration.

Table 11 presents vibration source levels for typical construction equipment at a distance of 25 feet. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, drilling typically generates vibration levels of 0.09 in/sec PPV, and vibratory rollers generate vibration levels of 0.21 in/sec PPV at a distance of 25 feet. Vibration levels are variable depending on soil conditions, construction methods, and equipment used. At distances of 100 feet and greater, construction activities would not generate vibration levels exceeding 0.05 in/sec PPV. Vibration levels may still be perceptible to residents in the vicinity of the project site. However, given the intermittent and short phase of construction activities which generate vibration and the distance between the project site and the nearest structures, which would not result in structural damage to nearby buildings, the project will have a less than significant impact with regard to groundborne vibration and noise levels.

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

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

Source: Environmental Noise Assessment, Illingworth & Rodkin, July 21, 2018.

Groundborne Vibration and Land Use General Plan Consistency of Proposed Sensitive Uses

As stated previously, groundborne vibration of the existing environment on the project is not considered an environmental impact. However, this discussion is included to assess the land use compatibility of the proposed project as it relates to groundborne vibration generated by operation of the adjacent SMART train. The closest residential units adjacent to the railway are approximately 35 feet from the centerline. The Draft EIR for the SMART project states that between 20 and 100 feet from the tracks, vibration may be perceptible, but would be less than the Federal Transit Administration (FTA) standard for residential uses. As such, the project will not expose new residents to excessive groundborne vibration which would cause a land use incompatibility.

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

Noise Mitigation Measures:

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

1. Limit construction hours to between 7:00 a.m. and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 7:00 p.m. on Saturday, Sunday 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 500 feet of the project site) of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses.
13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Recommendation NOI-2:

To reduce noise levels in the side yards of the eight Type II Zero Lot Line homes facing North McDowell Blvd to a CNEL of 60 dBA, a barrier with a minimum top of wall elevation of seven (7) feet above yard grade level on the side yard of the Zero Lot Line homes along North McDowell Blvd shall be incorporated into the project design. To ensure effectiveness, the noise barrier walls shall be built without cracks or gaps in the face and shall not have large or continuous gaps at the base, or where they adjoin the homes or each other. The walls should also have a minimum surface weight of 3.0 lbs. per square foot. Small, dispersed, gaps in the base of the walls for landscape irrigation or drainage which do not compose more than 0.5% of the wall area are acceptable.

Recommendation NOI-3:

In order to comply with noise compatibility standards, the project shall incorporate the following:

1. Provide forced air mechanical ventilation, satisfactory to the local building official, in all residences with partial or full line of sight to North McDowell Blvd. traffic.
2. To maintain interior noise levels at or below 45 dBA CNEL, provide sound-rated windows and doors at Type I and Type II residences facing or perpendicular to North McDowell Boulevard. The degree of sound mitigation needed to achieve an interior CNEL of 45 dBA or less would vary depending on the final design of the building (relative window area to wall area) and the design of the exterior wall assemblies. However, based on the future exterior noise levels and typical residential construction, it is anticipated that windows and doors facing or with a view of North McDowell Boulevard may require STC ratings of between 28 and 30.
3. The specific determination of exterior wall assemblies and window/door STC ratings should be conducted on a unit-by-unit basis during the project design. The results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City along with the building plans and approved prior to issuance of a building permit.

Recommendation NOI-4:

Install windows with STC ratings of between 28 and 32 for residences adjacent to the rail line to reduce interior maximum levels resulting from train engine noise to the recommended 55 dBA Lmax30 interior levels.

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; and City of Petaluma Housing Element 2015-2023.

Population and Housing Setting

The 2025 General Plan contemplates development of approximately 6,000 additional residential units and a buildout population of approximately 72,700. This represents an annual growth rate of nearly 1.2% per year. The project would add 110 dwelling units. The project site is identified as Site #3 on the City of Petaluma Residential Land Inventory Opportunity Sites, Appendix E to the City of Petaluma 2015-2023 Housing Element, prepared December 2014. As described in the Housing Element, sites classified as Mixed Use and that are vacant or largely vacant, such as the project site (Site #3), represent the greatest potential for the development of affordable housing to very low- and low-income households. The Mixed-Use classification allows a density of up to 30 dwelling units per acre. The Housing Element identifies a development potential of 105 units at the project site (Site #3) and includes

affordable housing development incentives and requirements. 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.

Population and Housing Impact Analysis

4.14 (a) (Substantial Growth) Less Than Significant Impact: The project site is located within the UGB and will not directly or indirectly induce substantial growth. The project proposes the construction of 110 residential units on a site that is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. Assuming 2.75 persons[18] per household, the projected population increase from the proposed project would be approximately 308 persons. The projected population does not constitute a substantial increase and remains sufficiently below the General Plan 2025 population projections. The proposed project site is surrounded by residential uses to the north, east, and south; and commercial/industrial uses to the west. The project is not expected to promote further development beyond what is proposed for the project site. The extension of utilities will be limited to provide services to the subject property and will not extend services to areas where services were previously unavailable. Therefore, the project will have less than significant impacts related to growth inducement.

4.14 (b) (Housing or Person Displacement) Less Than Significant Impact: At present the project site is primarily covered by compacted gravel for parking, storage and staging vehicles and materials. As such, the project will not displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere. The project implements the City's Housing Element by contributing 110 residential dwelling units to the existing housing stock within the City of Petaluma. Therefore, the project will have less than significant impacts that displace people or existing housing.

Mitigation Measures: None required.

4.15 PUBLIC SERVICES

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

Sources: City of Petaluma General Plan 2025 and EIR.

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

Public Services Setting

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

Public Services Impact Analysis

4.15 (a-b) (Fire & Police Protection) Less Than Significant Impact: The project site is located in an area with existing residential and commercial development that is well served by public services. New residents introduced onsite from the proposed project will result in an increase in demand for police and fire service. However, new demands on fire and police service have been previously anticipated as part of General Plan build-out and are accounted for with the City Facilities Development Impact Fee that are intended to offset the impacts of growing demand for fire and policing services.

General Plan policy 7-P-19 establishes a four-minute travel time and six-minute response time for emergencies within the city. The project is located approximately 300 feet from Fire Station 2, at 1001 North McDowell Boulevard. As such, the project is within the response radii of Fire Station 2 (see General Plan EIR Figure 3.4-2) and travel time is achievable within the targeted 4 minutes. The project is consistent with the General Plan 2025 because of the redundancy of approach access, the ability of emergency response vehicles to override traffic controls with lights, sirens, and signal pre-emption, and their ability to travel in opposing travel lanes in congested conditions.

The project, as proposed, includes four points of vehicular access from North McDowell Boulevard. All access points are also suitable for emergency vehicle access (EVA). The EVA provides a means of access for emergency personnel, including fire and ambulance, in cases of emergency. The addition of project trips to the adjacent street network is not expected to cause a reduction in travel speeds sufficient to cause significant delays for emergency vehicles.

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

4.15 (c) (Schools) Less Than Significant Impact: The project site is located within the Waugh Elementary School District. All secondary schools within Petaluma also belong to the Petaluma Joint Union High School District which operates under the umbrella of Petaluma City Schools. The nearest elementary school to the subject project site is Meadow Elementary School, located approximately 0.8 mile east. The General Plan projects that the Waugh Elementary School District will experience a decrease in enrollment. The projected enrollment at General Plan buildout is expected to utilize approximately 80 percent of the district’s capacity. Based on current capacities, sufficient school facilities are in place to accommodate any minor increase in enrollment associated with development of the proposed project. The project is subject to the payment of statutory school impact fees to offset cumulative impacts on the school system. Therefore, the proposed project will have less than significant impacts to schools.

4.15 (d) (Parks) Less Than Significant Impact: The City has adopted a citywide parks standard of 5 acres of parkland per 1,000 residents. Located within one mile of the project site are three neighborhood parks Turnbridge Park (3 acres), McDowell Meadows (1 acre), and Meadow View Park (3 acres), and one pocket park at Maria and Sonoma Mountain Parkway (0.3 acres). In addition to the existing parks, there are existing paths along Corona Creek near the project site, and a proposed multi-use path along the railroad corridor. The project also proposes approximately 17,900 square feet of useable open space in the form of common open space, courtyards, and side yards. All parks and existing bicycle/pedestrian facilities in the vicinity of the project site provide recreational opportunities to future residences. Existing park facilities are expected to be sufficient to meet active and passive recreational demands of new residents. A substantial adverse impact to park facilities is not expected to occur from

implementation of the subject project. Therefore, impacts to park lands due to the project will be less than significant.

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

Mitigation Measures: None required.

4.16 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Sources: City of Petaluma General Plan 2025 and EIR.

Recreation Setting

The City of Petaluma contains 1,477 acres of parks and open spaces, which represents approximately 17% of the acreage within the UGB. The public parks and recreational opportunities within the UGB accommodate a wide range of uses and activities that include both active and passive recreation. Parkland development and open space acquisition impact fees are required and serve to offset any cumulative impacts of new development on recreational resources.

Associated governmental agencies, such as the 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 at the western edge of the city, is managed by the Sonoma County Regional Parks Department.

Recreation Impact Discussion

4.16 (a) (Park Deterioration) Less Than Significant Impact: The project will result in an incremental increase in the use of nearby parks including Turnbridge Park, McDowell Meadows, Meadow View Park, and Maria and Sonoma Mountain Parkway pocket 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 project includes two common open space areas within the boundaries of the proposed project. Both common open space areas will be utilized by residents as passive recreation areas. Construction related impacts of the proposed project including all onsite and offsite improvements are fully analyzed herein. Construction of onsite recreational amenities will not adversely impact the environment. Therefore, impacts related to the construction of recreational facilities would be less than significant.

Mitigation Measures: None required.

4.17 TRANSPORTATION

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

Sources: City of Petaluma General Plan 2025 and EIR; General Plan Figure 5-1; Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of planning and Research, December 2018; and W-Trans, Traffic Impact Study, June 2, 2019.

Transportation Setting

Senate Bill 743, which was codified in Public Resources Code Section 21099 required changes to the guidelines implementing CEQA analysis regarding transportation impact. Changes to the guidelines are reflected in checklist item 4.17(b) above, which identify that vehicle miles traveled (VMT) is the most appropriate metric to evaluate a project's transportation impact and "level of service" no longer constitutes a significant environmental effect under CEQA (Public Resources Code Section 21099, subdivision (b)(3).

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. Although the City of Petaluma is working to adopt VMT thresholds and methodology by July 1, 2020, local VMT criteria has yet to be adopted. As such, in the interim, the City of Petaluma is relying upon VMT thresholds recommended by the Governor's Office of Planning and Research in the Technical Advisory on Evaluating Transportation Impacts (December 2018), which states:

> "Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (i.e., the project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high quality transit corridor) may employ VMT as its primary metric of transportation impact the entire project (see Public Resources Code Section 21099, subdivision (a)7(),(b)(1))."

The project site is located adjacent to the planned Corona SMART station, for which the City adopted the Petaluma Station Area Master Plan. Further, the project is located within a ½ mile of a planned major transit stop, is a residential infill project, incorporates measures to increase access to transit, and introduces bicycle and pedestrian facilities. Thus, employing the screening provision for residential projects located near transit station, the project is presumed to have a less than significant impact due to its location adjacent to the planned Corona SMART Station.

The City of Petaluma's General Plan and EIR was adopted prior to SB 743 going into effect and applied a level of service metric in evaluating a project's transportation impacts. The City's General Plan EIR found that with increased motor vehicle traffic from buildout of the General Plan, unacceptable level of service (LOS) would result at six intersections: 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. Given changes to the Public Resources Code and the CEQA Guidelines, and because the City of Petaluma has not yet adopted VMT thresholds or methodology, criteria set forth in OPR's Technical Advisory are relied upon to assess significance. Nonetheless, the City of Petaluma

continues to consider level of service to identify potential roadway improvement and the analysis herein continues to present LOS findings, for informational purposes only.

The General Plan EIR determined that implementation of the General Plan would result in less than significant impacts from an increased demand for transit service and safe bicycle parking. The following policies are particularly applicable to the subject project:

- General Plan policies 5-P-40 through 5-P-45 support the expansion of the bus transit system and the location of transit-oriented development along transit corridors.

- General Plan policy 5-P-31 requires future development to provide necessary bicycle support facilities throughout the city.

W-Trans prepared a Traffic Impact Study (TIS) to evaluate the project's potential to impact pedestrian, bicycle and traffic safety, conflict with established level of service standards, access, and/or introduce conflicts with the General Plan (**Appendix I**). The following provides a summary of the result of the TIS.

Existing Conditions

Passenger Vehicles

The City of Petaluma is bisected by U.S. 101, which serves as the primary route between San Francisco and Marin and Sonoma Counties. U.S. 101 accommodates over 90,000 vehicles per day within Petaluma. The circulation system within the City consists of approximately 140 miles of streets including, arterials, collectors, connectors, and local streets. Streets within the City that experience the highest average daily traffic include those that provide east/west connections across the Petaluma River or Highway 101 or serve as a parallel route to Highway 101. These streets include East Washington Street, Lakeville Highway, McDowell Boulevard, Petaluma Boulevard, Old Redwood Highway, and D Street.

The project is located east of U.S. 101 at the southeast corner of North McDowell Boulevard and Corona Road. The Traffic Impact Study prepared for the project addresses operating conditions at the following eight study intersections:

1. US 101 South Ramps/Petaluma Boulevard North
2. US 101 North Ramps/Old Redwood Highway
3. North McDowell Boulevard/Old Redwood Highway
4. North McDowell Boulevard/Corona Road
5. Petaluma Boulevard North/Corona Road-Skillman Lane
6. McDowell Boulevard/East Washington Street
7. US 101 North Ramps/East Washington Street
8. US 101 South Ramps/East Washington Street

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions and various streetscape amenities such as lighting and benches. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the project. However, sidewalk gaps exist along Corona Road northeast of the site, at the location of the planned Corona SMART Station. The project proposes to provide connectivity to the planned Petaluma North (Corona) Station internally via pathways and will install new ADA compliant sidewalks along the project site frontage to North McDowell Boulevard. Further, the project will install a crosswalk consistent with the Petaluma SMART Station Area Plan across North McDowell Boulevard at Michael Drive.

Bicycle Facilities

The City of Petaluma contains both shared on road bicycle facilities and off-street facilities. A summary of the existing and planned facilities in the study area is as follows:

Existing Class I Multi-Use Paths

- Capri Creek Trail: North McDowell Boulevard to Lenox Drive (0.95 mile)
- Corona Creek Trail: SMART Trail to Reisling Road (0.79 mile)
- Lynch Creek Trail: Water Street to Sonoma Mountain Parkway (2 miles)

Existing Class II Bike Lanes

- North McDowell Boulevard: Old Redwood Highway to Southpoint Boulevard (1.55 miles)
- Maria Drive: Sonoma Mountain Parkway to Luchessi Park (1.48 miles)
- Sonoma Mountain Parkway: Corona Road to East Maddison Street (2.02 miles)

Proposed Class I Multi-Use Path

- SMART Multi-Use Path: southern city limits to northern city limits (4.70 miles)

Proposed Class II Bike Lanes

- Corona Road: Petaluma Boulevard North to northern City limits (1.45 miles)
- Petaluma Boulevard North: Lakeville Street to US 101 (2.80 miles)
- Old Redwood Highway: US 101 to North McDowell Boulevard (0.25 mile)
- North McDowell Boulevard: East Washington Street to Southpoint Boulevard (1.45 miles)
- East Washington Street: western City limits to eastern City limits (3.70 miles)

Proposed Bicycle Improvements

The project proposes to install onsite bicycle facilities to serve new residents and the community. As conditioned, a shared pedestrian and bicycle facility (Class I-off street) will be installed along the project site frontage to North McDowell Boulevard. The bicycle facility would be grade separated from the roadway and a narrow planting strip. The bicycle facility would connect to existing and planned facilities in the project area including the Class II on street facility along North McDowell Boulevard, the planned Class II facility on Corona Road and the planned SMART Multi-Use Path, which will be located at the project site's boundary adjacent to the SMART corridor. The project proposed to install connecting pathways internally to access the planned SMART multi-use path.

Transit Facilities

Transit agencies providing regular service to the City of Petaluma include Petaluma Transit, Sonoma County Transit (SCT) and Sonoma Marin Area Rail Transit. Petaluma Transit provides fixed service within City limits. Route 2 runs along North McDowell Boulevard and stops at Corona Road. The route operates Monday through Friday with approximately 30-minute headways between 6:30 am and 8:00 pm and on Saturdays with approximately one-hour headways between 7:30 am and 7:30 pm. The existing bus stop in front of the project site will be improved with a bus pullout, shelter, benches, and associated improvements.

Sonoma County Transit provides regional service between Petaluma and surrounding communities. Route 44 stops along North McDowell Boulevard at Corona Road and operates Monday through Sunday with approximately one- to four-hour headways between 5:30 am and 9:00 pm.

Two or three bicycles can be carried on most Petaluma Transit, Sonoma County Transit and Golden Gate Transit buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on Petaluma Transit buses at the discretion of the driver.

Petaluma Paratransit is available for those who are unable to independently use the transit system due to a physical or mental disability. Paratransit is designed to serve the needs of individuals with disabilities within Petaluma and the greater Petaluma area.

Sonoma Marin Area Rail Transit (SMART) provides fixed service between the Sonoma County Airport in Santa Rosa to downtown San Rafael. Currently, SMART includes 43 miles of rail corridor and ten stations from the Sonoma County Airport to Downtown San Rafael. Upon completion, SMART will extend 70 miles from Cloverdale at the northern end

of Sonoma County to Larkspur where the Golden Gate Ferry connects Marin County to San Francisco.

The project site is located adjacent to the planned Petaluma North (Corona) Station. The Petaluma Downtown Station, currently in operation, is located approximately three miles south of the project site. Parking is provided at the downtown station and is available for use by SMART riders for a fee.

Transportation Impact Analysis

4.17 (a) (Conflicts with Plans, Policies, Ordinances) Less Than Significant Impact: The TIS evaluates effects on level of service (LOS) at eight (8) study intersections for three scenarios: Existing Conditions, Background Conditions, and Future Conditions. As discussed above and consistent with SB 743, the LOS metric is considered as a potential conflict with adopted General Plan policies. The following narrative summarizes the findings of the TIS.

Existing Plus Project Conditions

The TIS evaluated level of service assuming a 112-unit single family development. However, the project unit count has been reduced to 110 units. As such, the information presented herein is conservative as it presents information based on 112 units. The 112-unit project would generate 1,004 new daily trips, of which 79 would be generated during the am peak hour and 105 would be generated during the pm peak hour.[19]

Upon addition of project-related traffic to the existing volumes, the study intersections are expected to operate similarly to existing conditions without the proposed project. As shown in Table 4, the average delay during both peak periods at the intersection of North McDowell Boulevard/Corona Road decreases slightly with the proposed project. Additionally, the average delay during the pm peak hour at the intersection of McDowell Boulevard/East Washington will also decrease slightly. This result is due to additional vehicles utilizing excess capacity at intersections which are currently underutilized. All other intersections will increase average delay but will operate similarly to existing conditions. All study intersections will operate at LOS D or better, which is identified as acceptable in the City's General Plan. As such, impacts under the Existing Plus Project Conditions scenario would not conflict with City policies regarding LOS.

TABLE 4: EXISTING AND EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVEL OF SERVICE

Study Intersection	Existing Conditions				Existing Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 South Ramps/Petaluma Boulevard North	15.3	B	13.9	B	15.3	B	13.9	B
2. US 101 North Ramps/Old Redwood Highway	9.0	A	6.6	A	9.0	B	6.6	A
3. North McDowell Boulevard/Old Redwood Highway	49.7	D	54.5	D	49.8	D	54.6	D
4. North McDowell Boulevard/Corona Road	39.5	D	54.7	D	39.3	D	53.4	D
5. Petaluma Boulevard North/Corona Road-Skillman Lane	35.5	D	42.4	D	36.7	D	43.6	D
6. McDowell Boulevard/East Washington Street	44.0	D	47.8	D	44.7	D	47.2	D

[19] The 110-unit project would generate 986 average daily trips, 77 peak hour am trips and 103 peak hour pm trips.

7. US 101 North Ramps/East Washington Street	6.1	A	11.5	B	6.2	A	12.3	B
8. US 101 South Ramps/East Washington Street	19.6	C	28.5	C	20.0	B	28.9	C

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

Source: Traffic Impact Study for the Corona Station Residential Project, prepared by W-Trans, July 2, 2019; Table 9

Background Plus Project Conditions

This scenario takes into account the existing traffic conditions as well as projects that have been approved but are not yet constructed or operational. The estimated traffic in this scenario utilizes the existing traffic volumes during the am and pm peak hours as well as the net new trips anticipated by the Brody Ranch Subdivision, North River Apartments, Safeway Fuel Center, and Sid Commons Apartments.

Under background conditions, the intersection of North McDowell Boulevard/Corona Road would operate unacceptably at LOS E during the pm peak hour. The remaining intersections are expected to maintain acceptable operations at LOS D or better under background conditions without the project.

With project-related traffic added to background volumes, the study intersections are expected to operate similarly to background conditions, with no changes in level of service. As shown in Table 5, the study intersections are expected to continue operating at the same levels of service upon the addition of project-generated traffic to background volumes. The project will add vehicle trips, resulting in additional delay to North McDowell Boulevard/Corona Road. This intersection is anticipated to operate at LOS E under background conditions. The addition of project-generated traffic to background conditions will not further degrade the LOS at this intersection to the next LOS, therefore the project does not introduce an inconsistency due to degraded LOS.

TABLE 5: BACKGROUND AND BACKGROUND PLUS PROJECT PEAK HOUR INTERSECTION LEVEL OF SERVICE

Study Intersection	Background Conditions				Background Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 South Ramps/Petaluma Boulevard North	16.7	B	12.8	B	16.7	B	14.0	B
2. US 101 North Ramps/Old Redwood Highway	9.9	A	5.8	A	9.9	A	6.6	A
3. North McDowell Boulevard/Old Redwood Highway	51.3	D	51.7	D	51.5	D	54.7	D
4. North McDowell Boulevard/Corona Road	41.3	D	**56.2**	**E**	41.1	D	**59.7**	**E**
5. Petaluma Boulevard North/Corona Road-Skillman Lane	41.8	D	42.1	D	43.4	D	47.2	D
6. McDowell Boulevard/East Washington Street	53.8	D	47.5	D	55.0	D	51.0	D
7. US 101 North Ramps/East Washington Street	6.5	A	12.3	B	6.7	A	13.7	B
8. US 101 South Ramps/East Washington Street	21.3	C	29.4	C	21.7	C	30.8	C

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

Source: Traffic Impact Study for the Corona Station Residential Project, prepared by W-Trans, July 2, 2019; Table 10

Future Plus Project Conditions

The City of Petaluma relies upon a Traffic Model for evaluating the potential traffic impacts of buildout of the land uses described in the General Plan together with new or improved streets. The General Plan was developed based on a horizon year of 2025, however, due to changes in economic conditions since the General Plan was completed, it is expected that buildout of the General Plan land uses would occur after 2025.

Under the anticipated future traffic volumes without the proposed project, four of the study intersections would operate unacceptably during both am and pm peak hours. The remaining study intersections would operate acceptably at LOS D or better during the am and pm peak hours. Future operating conditions are summarized in Error! Reference source not found..

Upon the addition of project-generated traffic to the anticipated future volumes, and with optimized signal timing, and planned roadway improvements, the study intersections are expected to operate at the same levels of service as under future conditions. As shown in Table 6 below, the study intersections which are expected to operate at unacceptable levels would operate at the same levels of service with or without the addition of project-generated traffic. The increased delay at the four intersections operating unacceptably at LOS E will not degrade to the next level of service, therefore, the proposed project does not introduce a conflict due to deteriorated LOS under future conditions.

TABLE 6: FUTURE AND FUTURE PLUS PROJECT PEAK HOUR INTERSECTION LEVEL OF SERVICE

Study Intersection	Future Conditions				Future Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 South Ramps/Petaluma Boulevard North	13.4	B	19.0	B	13.4	B	19.2	B
2. US 101 North Ramps/Old Redwood Highway	14.9	B	18.7	B	14.9	B	18.7	B
3. North McDowell Boulevard/Old Redwood Highway	**109.1**	**F**	**76.2**	**E**	**109.4**	**F**	**79.0**	**E**
4. North McDowell Boulevard/Corona Road	**57.6**	**E**	**60.7**	**E**	**57.3**	**E**	**60.7**	**E**
5. Petaluma Boulevard North/Corona Road-Skillman Lane	**66.4**	**E**	**55.7**	**E**	**68.5**	**E**	**57.3**	**E**
6. McDowell Boulevard/East Washington Street	**70.0**	**E**	**59.5**	**E**	**71.1**	**E**	**59.5**	**E**
7. US 101 North Ramps/East Washington Street	6.7	A	11.8	B	6.9	A	12.6	B
8. US 101 South Ramps/East Washington Street	36.0	D	40.4	D	36.1	D	40.5	D

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

Source: Traffic Impact Study for the Corona Station Residential Project, prepared by W-Trans, July 2, 2019; Table 11

Queueing

While the City of Petaluma does not have established standards of significance to determine the impact of a project on queuing at nearby intersections, the TIS evaluated projected 95th percentile queues of left-turn pockets at signalized intersections and the potential to exceed the available stacking length. A queue impact is considered a significant impact if (a) the 95th percentile queue can be contained within the available stacking length without the project and the project will cause the queue to exceed the length or, (b) the queue length exceeds the available stacking length and the project will increase the 95th percentile queue by more than 25 feet.

Left-turn storage is expected to exceed available storage at North McDowell Boulevard/Corona Road, Petaluma Boulevard/Corona Road-Skillman Avenue, and McDowell Boulevard/East Washington Street. With the exception of Petaluma Boulevard/Corona Road-Skillman Lane, the increase in queueing will be less than 25 feet, resulting in a less than significant impact. The westbound through queue on Corona Road approaching North McDowell is expected to exceed the available storage capacity between the intersection and the railroad tracks. Installation of pre-emption equipment will ensure the tracks are clear of crossing vehicles when the SMART train approaches the crossing. As a project condition of approval, a fair share of the cost for pre-emption equipment shall be paid by the developer at 4.7 percent of the cost.

The westbound left turn lane queue on Corona Road approaching Petaluma Boulevard North exceeds the available storage under existing conditions. Implementation of the project will add more the 25 feet to the queue during the pm peak hour under the background and future scenarios. As such, the TIS recommends reconfiguration of the westbound approach to include a shared left-turn/through lane, which would reduce the queue to an acceptable length. Additionally, the modification would contribute to the overall operation of the intersection and improve LOS from E to D under all scenarios evaluated.

With the conditions of approval recommended by the TIS and as augmented by the City traffic engineer, the project's contribution to queuing would not introduce a potential conflict with City standards. Therefore, the project would have less than significant impacts.

4.17 (b) (Conflict with 15064.3(b) VMT) Less Than Significant: Vehicle Miles (VMT) Traveled for the proposed project was estimated by multiplying the number of trips generated by the project with the average trip distance for the Traffic Analysis Zone (TAZ) in which the project is located (4.73 miles). Average trip distances are included in Sonoma County Transportation Authority's (SCTA) County Model for VMT. The traffic report prepared by W-Trans estimates 1,004 daily trips which is based on 112 units. VMT is calculated by multiplying the estimated number of trips, and the average trip distance of 4.73 miles, which is approximately 4,750 miles. It should be noted that following preparation of the traffic report the project was revised to include 110 units. Based on the trip generation rate and the revised number of units, the total daily trips are anticipated to be 986. As such, VMT for the project would be approximately 4,664 miles. Since the project site is located adjacent to the planned Petaluma North (Corona) Station and is fully within 0.5 mile of a planned major transit stop, it is presumed that impacts related to VMT will be less than significant.

4.17 (c) (Geometric Design Feature Hazard) Less Than Significant Impact: The project site would be accessed via two driveways along the project frontage on North McDowell Boulevard. Sight distance along North McDowell Boulevard at the project driveway locations were evaluated based on sight distance criteria contained in the Highway Design Manual published by Caltrans. The recommended sight distances for driveways are based on stopping sight distance, which use the approach travel speed as the basis for determining the recommended sight distance.

Sight distance at the proposed driveways were field measured. Based on a design speed of 40 mph, the minimum stopping sight distance needed is 300 feet. A review of the field conditions found that the sight distance from the northern project driveways to the south was more than 500 feet. The northern driveway will only require sight distance to the south as only right turns are permitted. For the southern project driveway, both left and right turns will be permitted. Sight lines to the south are adequate, however, sight lines to the north are restricted by existing landscaping in the center median.

As described in the TIS, to maintain adequate sight lines for vehicles exiting from the southern project driveway, it is recommended that existing landscaping at the center median be modified. Recommendation **TRAF-1** requires that the applicant work with the City of Petaluma to modify the center median landscaping on North McDowell Boulevard to provide adequate sight distance for vehicles turning left from the southern project driveway. Signage

and landscaping proposed on the project site shall comply with the City's sight distance requirements for all driveways. Incorporation of recommendation TRAF-1 will ensure that adequate sight distance at the project driveways are maintained and that potential impacts due to a design feature hazard is reduced to less than significant levels.

4.17 (d) (Emergency Access) Less Than Significant: The project's access driveways have been reviewed by the Petaluma Public Works and Fire Departments. Emergency vehicle access is provided via the two proposed driveways and internal drive aisle maintain a minimum width of 20 feet, which is sufficient to accommodate an aerial fire truck. Site circulation was determined to be adequate, including sufficient driveway width to allow for fire truck access and through access to the proposed dwellings. 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. North McDowell Boulevard and Corona Road would remain open to through traffic during construction of all phases of the proposed project. To construct the project, road closure is not anticipated, although temporary lane closure and encroachment may occur during frontage improvements to North McDowell Boulevard. Therefore, temporary impacts to emergency access will be less than significant during project construction.

4.17 (f) (Transit, Bicycle, Pedestrian Facilities) Less Than Significant Impact: Public transit, bicycle, and pedestrian facilities in the project vicinity will not be adversely impacted by the proposed project.

Pedestrian Facilities

Given the proximity of residences, retail, and recreation areas to the site, it is reasonable to assume that some project residents will utilize pedestrian, bicycle, and transit facilities for trips to and from the project site. Sidewalks exist along the project frontage on North McDowell Boulevard. Sidewalks are discontinuous on the north side of Corona Road and on the south side of Corona Road along a portion of the project site. Frontage improvements will include construction of a sidewalk along North McDowell Boulevard, a HAWK pedestrian crossing across North McDowell Boulevard as well as on-site pedestrian paths throughout the project site. Further the project will provide internal access to the planned Petaluma North (Corona) Station and connectivity to the planned SMART Multi-Use Path adjacent to the project boundary. The project will not interfere with local or regional existing or planned pedestrian facilities. Rather the project will enhance pedestrian facilities onsite and in the immediate vicinity by installing sidewalks, pathways, crosswalks and providing public access to new pedestrian facilities. Therefore, pedestrian facilities serving the project site would be adequate and impacts would be considered less than significant.

Bicycle Facilities

As conditioned, the Project will install a shared off-road Class I bicycle and pedestrian facility at the site frontage to North McDowell Boulevard. This facility exceeds the Class II standard identified in the City's Bicycle and Pedestrian Plan, which shows an existing on-street Class II facility along the site frontage tot North McDowell Boulevard. Additionally, the project will provide public through connectivity to the planned SMART multi-use path that will be installed adjacent to the project site within the SMART corridor. Further, bicycle racks will be installed onsite adjacent to courtyards and two bicycle parking spaces will be provided in all resident garages. Bicycle facilities serving the project site are considered to be adequate. Therefore, the project would have less than significant impacts related to bicycle facilities.

Transit Facilities

Existing transit routes are expected to adequately accommodate project-generated transit trips. An existing bus stop and the planned Petaluma North (Corona) Station are located adjacent to the project site. The project proposes connecting pathways to provide direct access internally to the planned Petaluma North (Corona) Station. Additionally, the project proposes frontage improvements to enhance the existing bus stop along North McDowell Boulevard at the site frontage. Improvements would allow for a bus to pull fully outside of the travel lane, so as to not block traffic. Bus stop improvements would be installed consistent with City standards including a shelter with two benches, waste bins, and bicycle parking. Transit facilities serving the project site are considered to be adequate. Therefore, the project would have less than significant impacts related to transit facilities.

Mitigation Measures:

Recommendation TRAF-1: Existing landscaping on the median island within North McDowell Boulevard and within the line sight of the eastern driveway, shall be modified to achieve adequate sight lines where left-turn egress would be allowed. Landscaping modification would include removal of bushes and shrubs between the trees as well as a reduction in the height of the berm on the median. Additionally, new landscaping and signage introduced by the project shall be installed in locations and maintained in a manner that does not further introduce sight line conflicts at project driveways.

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.

Tribal Cultural Resources Setting

The Federated Indians of Graton Rancheria did not request consultation within the statutory timeframe provided by Public Resources Code §21080.3.1. The City of Petaluma provided notice to the Tribe in a letter dated December 12, 2018. Graton Rancheria received the notification letter and provided no reply to the City of Petaluma within the thirty (30) day time-period provided for consultation requests. Additionally, no subsequent request or correspondence by the Graton Rancheria has been received by the City of Petaluma.

Tribal Cultural Resources Impact Analysis:

4.18 (ai- aii) (Listed or Eligible for Listing) Less than Significant: This section incorporates by reference all text included within the Cultural Resources topic above. Given past disturbance onsite, the existing uses, and the protective measures added under the Cultural Resources section of this report, development of the project would have less than significant impacts to tribal cultural resources.

Tribal Cultural Resources Mitigation Measures: None required.

4.19 UTILITIES AND SERVICE SYSTEMS

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

Sources: City of Petaluma General Plan 2025 and EIR; Water Resource and Conservation 2015 UWMP; Sonoma County Water Agency 2015 UWMP; and Preliminary Hydrology Study for Corona Station Development, prepared by CSW Stuber-Stroeh Engineering Group, Inc., November 30, 2018.

Utilities and Service Systems Settings

The City's water supply is sourced from the Russian River Water System and is supplemented with local groundwater. Water from the Russian River Water System is obtained via the Petaluma Aqueduct through a contract with the Sonoma County Water Agency (SCWA). The City's Water Resource and Conservation Division (WR&C) provides municipal water service to approximately 60,000 customers and therefore must comply with the Urban Water Management Plan Act, which requires the preparation of an Urban Water Management Plan (UWMP) every five years.

In 2015, the City updated its UWMP including a baseline demand analysis in compliance with the interim 2015 Urban Water Use target, an Urban Water Use target analysis for 2020, projected urban water use through the year 2040, and a description of programs to achieve the target demand reductions in the UWMP.

Instream flow requirements have also been established to protect fish and wildlife species and recreation.[20] Based on regional water supply availability, the SCWA expects to be able to increase annual water deliveries to Petaluma from approximately 7,200 acre-feet (AF) in 2010 to 11,400 AF by 2035.

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

To assure that the City of Petaluma has sufficient water supplies to meet increased water demand, the General Plan requires routine monitoring of water supplies against actual use and evaluation for each new development project (Policy 8-P-4).

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.

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.

The following General Plan policies related to stormwater are particularly applicable to the subject project:

8-P-30C: On-site and off-site improvements, deemed necessary by the City to reduce the surface water impacts associated with a specific development proposal shall be designed, constructed, and maintained in perpetuity at the cost of the development associated with said impacts.

8-P-33A: Any project within an area subject to inundation in a 1% (100-year) storm event shall include site specific analysis of impacts and identification of mitigations.

8-P-37J: Projects may construct detention/retention facilities as mitigation for surface water impacts, so long as the improvements result in an improvement to the pre-project conditions by way of a net reduction in storm water elevations and downstream flows.

As mentioned in Section 4.10 Hydrology and Water Quality, a majority of the project site is located within Zone AE (Special Flood Hazard Area), which is subject to 100-year flooding with base flood elevations between 32 and 35 feet, and underwent review and consideration, in accordance with General Plan Policy 8-P-33A. Policies 8-P-30C and 8-P-37J are implemented through the Stormwater Management and Pollution Control Ordinance which locally codifies the requirements of the NPDES permit issued by the State Water Resources Control Board.

Utilities and Service Systems Impact Analysis

4.19 (a) (Relocation/Expansion of Utilities) Less Than Significant Impact with Mitigation: The project will not require or result in the relocation or expansion of offsite utilities. Existing water, wastewater, electric power, and telecommunications facilities will be extended to the project site from North McDowell Boulevard and have

[20] State Water Resources Control Board: Decision No. 1610 (http://www.waterboards.ca.gov/waterrights)

sufficient capacity to serve the proposed development. The project will not result in significant environmental impacts due to the expansion of utilities or construction of new utilities as improvements are limited to activities onsite and along the site frontage at North McDowell Boulevard.

The proposed project will increase the area of impervious surfaces onsite from new buildings, circulation, and parking areas, relative to existing conditions. The stormwater from the new buildings and other impervious surfaces would be collected and routed to bio-retention areas throughout the site, allowing for treatment and filtration. The stormwater would then be routed to new storm drains within the project site and conveyed to and discharged stormdrains within North McDowell Boulevard at the site frontage. As stated in the Preliminary Hydrology Study (**Appendix J**) and as required by **Mitigation Measure UTIL-1**, a Final Hydrology and Hydraulic Study shall be prepared to confirm that the proposed combination of site grading, routing of onsite storm water pipe facilities and storm water treatment systems will continue to mitigate increases in calculated peak flows to the individual points of concentration around the site, to at or below pre-project conditions. The Final Hydrology study will ensure that the proposed storm drainage system is adequately distributed to remove storm waters without flooding and will reduce potential impacts related to the expansion of storm water drainage infrastructure to less than significant.

Proposed LID measures include tree plantings and bio-retention areas that will capture stormwater runoff during precipitation events and provide for treatment and filtration of stormwater runoff onsite prior to release. With the proposed LID measures and compliance with C.3 stormwater requirements, the project will not significantly increase runoff relative to the existing condition and no new stormwater facilities are anticipated. The environmental impacts associated with the proposed storm drains and bio-retention areas have been evaluated throughout this document and will be subject to conditions of approval and mitigation measures set forth herein. Therefore, the project is expected to result in less than significant impacts due to the expansion of existing storm water drainage facilities or construction of new facilities.

4.19 (b) (Sufficient Water Supplies) Less Than Significant Impact: In evaluating the sufficiency of water supplies to meet existing water demands in addition to water demand generated by the proposed project, the City has compared General Plan 2025 projected water demand to actual use. In 2018 the City's average per capita water usage rate was 75.35 gallons per capita per day (GPCD).[21] 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.[22] The results of that comparison find that potable water demand is well within the available SCWA supply, both for this project, and for cumulative demand 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.[23] The UWMP establishes a 2015 baseline daily per capita water use of 111 gallons based on a gross water use of 7,678 acre-feet per year. For year 2015, the UWMP concludes that the City complies with the 2020 water use target, which aims to achieve a 5% reduction in the per capita use relative to the 5-year baseline.

A comparison of actual demand for potable water was made relative to the an annual SCWA supply limit for Petaluma of 4,366 million gallons per year (13,400 acre-feet) and a peak supply limit of 21.8 million gallons per day. In both instances, potable demand is well within available SCWA supply capacity. The projected demand is less than 10,000 acre-feet.[24] Tiered water rates, conservation efforts, and the conversion of Rooster Run Golf Course to recycled water have in recent years kept annual and peak demands within the available SCWA supply.

The UWMP establishes Demand Management Measures and a Water Shortage Contingency Plan (2016 Updated), which provide a means for water conservation and planning for periods of drought. Additionally, individual development projects are required to comply with the City's Water Conservation Ordinance for interior and exterior

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

[22] City of Petaluma 2015 UWMP page 23.
[23] City of Petaluma 2015 UWMP Table 3-6, Total Water Demands.
[24] See Item 4(B) of June 1, 2015 City Council agenda (http://cityofpetaluma.net/cclerk/archives.html).

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 from the applicant to fund the project's share for use of existing facilities and planned improvements. Wastewater flows from the proposed project will be conveyed to the Ellis Creek Water Recycling Facility, which has sufficient operating capacity to handle the additional flows generated by the proposed project. There would be no new construction or expansion of domestic water or wastewater facilities as part of the proposed project.

As a 110-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. The project would not exceed wastewater treatment requirements and adequate treatment capacity would be available to accommodate wastewater generated by the project. Therefore, the project would have less than significant impacts to wastewater treatment facilities.

4.19 (d, e) (Solid Waste Generation/Compliance with Solid Waste Management) Less Than Significant Impact: During site preparation, gravel surfaces, structures, and vegetation will be removed. As stated in Section 4.9 Hazards/hazardous materials, a Risk Management Plan that provides the procedures to properly manage contaminated soil and groundwater that may be encountered during construction activities will be required.

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

The proposed project, consisting of the development of 110 single-family dwelling units, will contribute to the generation of solid waste. However, as a residential project the amount of solid waste generated is consistent with the service needs anticipated by the Petaluma General Plan and evaluated in the General Plan EIR.

At present, the City is under contract with Recology for solid waste disposal and recycling services. This company 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 needs.

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

Utilities and Service Systems Mitigation Measures:

UTIL-1: Prior to issuance of a grading permit, a Final Hydrology and Hydraulic Study shall be prepared to confirm that the proposed combination of site grading, routing of onsite storm water pipe facilities and storm water treatment systems continue to mitigate increases in calculated peak flows to the individual points of concentration around the site, to at or below pre-project conditions.

4.20 WILDFIRE

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

Sources: City of Petaluma General Plan 2025 and EIR; and CAL FIRE mapping, November 2007.

Wildfire Setting

Petaluma is susceptible to wildland fires due to the steep topography, abundant fuel load, and climatic conditions, particularly along the edges of the City. The areas most susceptible to fire hazards are located near the wildland urban interface at the City margins. Lands surrounding the City of Petaluma that are within the State Responsibility Area are classified as moderate fire hazard severity zone to the west and south of the City and high and moderate to the east and north. Land within City limits is classified as non-Very High Fire Hazard Severity Zone (VHFHSZ) in local, state or federal responsibility areas.

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

Wildfire Impact Analysis

4.20 (a-d) (Impair Emergency Plan, Expose Occupants to Wildfire Pollutants, Require Infrastructure, Pose Wildfire Related Risks) Less Than Significant Impact: The project site is categorized as a Non-VHFHZ by CAL FIRE and surrounded by urban uses (**Figure B-6** in **Appendix B**). The project is not located in or near 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 classified as moderate hazard areas. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. There are no factors, such as steep slopes, prevailing winds, or the installation/maintenance of new infrastructure, that would exacerbate fire risk or expose

project occupants to the uncontrolled spread of a wildfire, pollutant concentrations from a wildfire, post-fire slope instability, or post-fire flooding. Therefore, the project would have less than significant impacts related to wildfire risks.

Wildfire Mitigation Measures: None required.

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

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

Mandatory Findings Discussion

4.21 (a) (Degrade the Environment) Less Than Significant Impact: The project is located within the City of Petaluma's UGB and surrounded on three sides by established urban uses. The proposed development on the project site is generally consistent with the General Plan Land Use and supports the goals, policies, and programs outlined in the General Plan.

The analysis herein identified measure to avoid, reduce or offset potential impact resulting from the proposed project. Due to the past uses onsite and the infill nature of the proposed project, potential environmental impacts are primary associated with temporary construction activities. As described above in the Biological Resources discussion, impacts to bird protected by the migratory bird treaty act will be avoided or substantially reduced with implementation of mitigation measure BIO-1. The Hazards/Hazardous Materials, Hydrology and Water Quality and the Geology and Soils discussions identify measures to avoid and minimize potential environmental impacts associated with water quality, flooding, and soil stability. Additionally, the Cultural Resources discussion identifies measures to ensure that potential impact to buried cultural resources are avoided. No other impacts associated with environmental degradation, plant or animal communities, species population and ranges, or California history or pre-history have been identified. As such, with implementation of mitigation measures described herein, and application of conditions of approval, 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 project is limited to a residential development, on an infill parcel, adjacent

to the planned Petaluma North (Corona) Station, the incremental increase in cumulative impacts will be negligible.

The project is generally consistent with the surrounding land uses in the project vicinity and implements the intent of the UGB through the development of an underutilized parcel in the existing urbanized area (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.

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. When the project contributes to a cumulative impact identified in the General Plan, its contribution is incremental and at a level anticipated by the General Plan. Therefore, the project's cumulative impacts will be less than significant.

4.21 (c) (Substantial Adverse Effect on Humans) Less Than Significant Impact: The project has the potential to result in adverse impacts to humans due to air quality, biological resources, geology and soils, noise, and hydrology and water quality. With mitigation measures set forth above, environmental 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. Site Plan and Architectural Review Submittal, March 4, 2019 as revised.

B. Figure B-1 through B-7

C. Air Quality and Greenhouse Gas Assessment, prepared by Illingworth & Rodkin, September 19, 2018.

D. Geotechnical Investigation, prepared by Stevens Ferrone & Bailey Engineering Company, Inc., August 28, 2018.

E. Draft Phase I Environmental Site Assessment, prepared by Pinnacle Environmental, Inc., February 15, 2017.

F. Phase II Environmental Site Assessment, prepared Pinnacle Environmental, Inc., October 12, 2017.

G. Preliminary Stormwater Control Plan, prepared by CSW Stuber-Stroeh Engineering Group, Inc., November 26, 2018.

H. Environmental Noise Assessment, prepared by Illingworth & Rodkin, July 21, 2018.

I. Traffic Impact Study, prepared by W-Trans, July 2, 2018.

J. Preliminary Hydrology Study, prepared by CSW Stuber-Stroeh Engineering Group, Inc., November 30, 2018.

5.2. OTHER DOCUMENTS REFERENCED

1. City of Petaluma, General Plan 2025 and EIR.
2. City of Petaluma Municipal Code and Implementation Zoning Ordinance.
3. BAAQMD 2017 Bay Area Clean Air Plan, prepared by the Bay Area Air Quality Management District, April 2017.
4. California Environmental Quality Act Air Quality Guidelines, prepared by the Bay Area Air Quality Management District, May 2017.
5. California Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed March 2019.
6. California Department of Conservation Farmland Mapping and Monitoring Program.
7. City of Petaluma 2015 Urban Water Management Plan, prepared June 2016.
8. 2007 Final Adopted State Alternative Fuels Plan, prepared by the California Energy Commission, https://ww2.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF, Accessed July 9, 2019.
9. 2016 California Green Building Standards Code (CALGreen), Effective January 1, 2017.
10. Sonoma County Regional Climate Action Plan 2020 and Beyond, prepared July 2016.

6. MITIGATION MONITORING AND REPORTING PROGRAM

City of Petaluma, California

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

Project Name: **Corona Station Residential Project**

File Number: **File No. PLMA 18-0006**

Address/Location: 890 North McDowell Boulevard, Petaluma, CA
(APN: 137-061-019)

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 improvements 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.

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
AIR QUALITY				
AQ-1: The applicant shall incorporate the Best Management Practices (BMPs) for construction into the construction and improvement plans and clearly indicate these provisions in the specifications. In addition, an erosion control program shall be prepared and submitted to the City of Petaluma prior to any construction activity. BMPs shall include but not be limited to the BAAQMD Basic Construction Mitigation Measures as modified below: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three times per day. 2. All haul trucks transporting soil, sand, or other loose material shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California 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	• 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		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. Construction equipment staging shall occur as far as possible from existing sensitive receptors. 9. The Developer shall designate a person with authority to require increased watering to monitor the dust and erosion control program and provide name and phone number to the City prior to issuance of grading permits. Post a publicly visible sign with the telephone number of designated person and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.				
AQ-2: To reduce potential impacts to air quality during construction, the project shall develop and implement a plan demonstrating that off-road equipment used on-site to construct the project would achieve a fleet-wide average 45 percent reduction, or more, in diesel particulate matter exhaust emissions. Examples of how to achieve this reduction may include but is not limited to a combination of the following: 1. Diesel-powered off-road equipment larger than 25 horsepower operating on-site for more than two days continuously shall at a minimum meet U.S. EPA particulate matter emissions standards for Tier 2 engines that include CARB-certified Level 3 Diesel Particulate Filters or equivalent.1 Equipment that meets U.S. EPA Tier 3 standards with DPF 3 filters for particulate matter or engines meeting Tier 4 particulate matter standards would meet this requirement.	• 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		

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

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
2. All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines. 3. Line power would be provided to limit the use of any portable diesel-powered equipment to 20 hours (e.g., generators, compressors, welders, etc.). 4. Use of construction equipment that is alternatively-fueled (non-diesel). 5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 6. Minimize the idling time of diesel powered construction equipment to two minutes. 7. All construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM. 8. Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.				
BIOLOGICAL RESOURCES				
BIO-1: In order to avoid impacts to special-status avian species and other birds protected under the Migratory Bird Treaty Act, site preparation activities, including the removal of trees and building demolition, should occur outside of the bird-nesting season between September 1st and January 31st. If vegetation removal or construction begins between February 1st and August 31st, preconstruction surveys including call sounds shall be conducted by a qualified biologist within 7 days and up to 14 days prior to such activities to determine absence or the presence and location of nesting bird species. The nesting survey shall include the examination of all trees within 200 feet of the project site, or as otherwise determined by a qualified ornithologist, including those not	• Conduct construction in conformance with measures herein. • Notify Planning Division and CDFW in the event of discovery.	• Applicant • CDFW • Planning Division • Qualified biologist.		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
identified for removal. If active nests are present, temporary protective breeding season buffers shall be established by a qualified biologist in order to avoid direct or indirect mortality or disruption of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist to prevent nest abandonment and direct mortality during construction. Buffers may be larger for special-status species. Work may proceed if no active nests are found during surveys or when the young have fledged a nest or the nest is determined to be no longer active.				
CULTURAL RESOURCES				
CUL-1: If during the course of ground disturbing activities, including, but not limited to excavation, grading and construction, a potentially significant prehistoric or historic resource is encountered, all work within a 100-foot radius of the find shall be suspended for a time deemed sufficient for a qualified and city-approved cultural resource specialist to adequately evaluate and determine significance of the discovered resource and provide treatment recommendations. Should a significant archeological resource be identified a qualified archaeologist shall prepare a resource mitigation plan and monitoring program to be carried out during all construction activities. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).	• Conduct construction in conformance with measures herein. • Notify Professional Archaeologist and Planning Division in the event of potentially significant archaeological resource discovery. • Include measure on project construction and improvement plans.	• Applicant • Professional Archaeologist • Planning Division		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
GEOLOGY AND SOILS				
GEO-1: As determined by the City Engineer and/or Chief Building Official, all recommendations outlined in the Geotechnical Investigation dated August 28, 2018, prepared by Stevens, Ferrone & Bailey, Engineering Company, Inc., including but not limited to, site preparation and grading, excavation, seismic design, foundation design, and sound wall design are herein incorporated by reference and shall be adhered to in order to ensure that appropriate construction measures are incorporated into the design of the project. 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. These plans shall detail erosion control measures such as site watering, sediment capture, equipment staging and laydown pad, and other erosion control measures to be implemented during construction activity on the project site.	• Compliance with approved erosion control plan.	• Applicant/ Contractor/ Geotechnical Engineer • Public Works and Utilities • Building Division		
GREENHOUSE GAS EMISSIONS				

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
GHG-1: A GHG reduction plan shall be developed and demonstrate that GHG emission from the operation of the project would be reduced, such that the project would have GHG emissions not exceeding 660 MT of CO2e/ year or 2.8 MT/capita/year in 2030. Elements of this plan may include the following: • Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power; • Provide infrastructure for electric vehicle charging in residential units (i.e., provide 220 VAC power) • Develop and implement a transportation demand management (TDM) program to reduce mobile GHG emissions; • Incorporate pedestrian and bicycle circulation features; • Increase water conservation above State average conditions for residential uses; • Construct onsite or fund off-site carbon sequestration projects such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted. If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions; • Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and	• Conduct construction in conformance with measures herein. • Prior to issuance of a Certificate of Occupancy, provide a GHG Reduction Plan demonstrating compliance which may include proof of purchase of Carbon offset credits which have been verified and registered by a source approved by the California Air Resources Board or BAAQMD.	• Applicant • Planning Division • Building Division		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
funding of an escrow-type account or endowment fund would be overseen by the County.				
HAZARDOUS MATERIALS				
HAZ-1: Prepare and implement a Risk Management Plan and Health and Safety Plan that protects construction workers and provides the procedures to properly manage contaminated soil and groundwater that may be encountered during construction activities. The Plan shall address procedures for discovery of any known or unknown features or environmental conditions that may be encountered during construction activities and proper disposal methods for contaminated materials. The Plan shall include, but not be limited to the following components: • **Verification of Compliance**: Prior to issuance of a grading permit, the applicant shall submit for review and approval by the City of Petaluma, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the Sonoma County Department of Health Services, have granted all required clearances and confirmed that all applicable standards, regulations and conditions for all previous contamination at the project site. • **Soil management:** Provide guidelines for identification and analysis of known (per Phase I ESA and Phase II ESA prepared by Pinnacle Environmental, Inc.) and unknown environmental conditions and define responsibilities for management of discovery of known and unknown features or site conditions. • **Groundwater management:** Groundwater encountered during construction shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Petaluma, the RWQCB and/or Sonoma County Department of Health Services. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and	• Conduct construction in conformance with measures herein. • Compliance with approved Risk Management Plan and Health and Safety Plan. • Prior to issuance of a grading permit, submit proof of clearance from all appropriate agencies.	• Applicant/ Contractor • Planning Division • Building Division • SF Bay Region Water Board		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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vapor intrusion into buildings. Prohibit use of groundwater encountered during construction activities for dust control and allow discharge of groundwater to surface waters only pursuant to a permit issued from applicable regulatory agencies. All permit conditions must be satisfied prior to discharge. • **Health and Safety plan**: Preparation and implementation of a site-specific Environmental Health and Safety Plan by the general contractor to ensure that appropriate worker health and safety measures are in place during construction activities. Elements of the plan must include all practices and procedures necessary to comply with all new and existing Federal, California, and local statutes, ordinances, or regulations regarding health and safety. Specific components of the Plan must include the following: o Identification of site hazards potential hazardous substances/materials that could be encountered, including potential odors associated with hazardous substances/materials; o Assignment of specific health and safety responsibilities for site work; o Establishment of appropriate general work practices; o Establishment of control zones and decontamination procedures; o Job hazard analysis / hazard mitigation procedures; o Required personal protective and related safety equipment; and o Contingency and emergency information. • **Proper Removal of Buried Equipment:** Any buried holding tanks including septic systems shall be properly decommissioned in accordance with applicable regulations established by the County of Sonoma. Removal of underground tanks shall be immediately followed by backfill in accordance				

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
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with Engineering recommendations. Materials shall be properly disposed of at permitted facilities.				
HYDROLOGY AND WATER QUALITY				
HYDRO-1: Following construction of the residential buildings within the FP-C (Flood Plain – Combining District), and prior to occupancy, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator. As determined to be appropriate by the Floodplain Administered, the following standards may also be required: 1. All new improvements shall be anchored to present flotation, collapse, or lateral movement. 2. All new improvements shall be constructed with materials and utility equipment resistant to flood damage and using methods and practices to minimize flood damage. 3. All electrical, heating, air conditioning, ventilation, and plumbing shall be designed and located to prevent water from entering or accumulating within components during flooding. 4. All new construction and improvements shall insure that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. A minimum of two opening not less than one square inch for every square foot of enclosed area shall be provided	• Conduct construction in conformance with measures herein. • Prior to issuance of Certificate of Occupancy, provide proof of certification by a registered engineer or surveyor.	• Project Engineer • Planning Division • Building Division • Floodplain Administrator		
NOISE				

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MEASURE	IMPLEMENTATION	RESPONSIBLE PARTY	COMPLETION OF IMPLEMENTATION	
			ACTIVITY	DATE COMPLETED
NOI-1: The following Best Construction Management Practices shall be implemented to reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance: 1. Limit construction hours to between 7:00 a.m. and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 7:00 p.m. on Saturday, Sunday and State, Federal and Local Holidays. 2. Delivery of materials and equipment to the site and truck traffic coming to and from the site is restricted to the same construction hours specified above. 3. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. 4. Unnecessary idling of internal combustion engines shall be strictly prohibited. 5. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors. 6. Acoustically shield stationary equipment located near residential receivers with temporary noise barriers. 7. Utilize "quiet" air compressors and other stationary noise sources where technology exists. 8. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities.	• Conduct construction in conformance with measures herein. • Incorporate into project design and construction documents. • Maintain delivery, hauling and construction in accordance with measure. • Provide notice to surrounding properties in accordance with measure. • Applicant shall provide for periodic inspection during construction to ensure that measures are in place.	• Applicant • Planning Division • Building Division		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
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 500 feet of the project site) of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses. 13. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.				
NOISE – RECOMMENDED MEASURES				

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
Recommendation NOI-2: To reduce noise levels in the side yards of the eight Type II Zero Lot Line homes facing North McDowell Blvd to a CNEL of 60 dBA, a barrier with a minimum top of wall elevation of seven (7) feet above yard grade level on the side yard of the Zero Lot Line homes along North McDowell Blvd shall be incorporated into the project design. To ensure effectiveness, the noise barrier walls shall be built without cracks or gaps in the face, and shall not have large or continuous gaps at the base, or where they adjoin the homes or each other. The walls should also have a minimum surface weight of 3.0 lbs. per square foot. Small, dispersed, gaps in the base of the walls for landscape irrigation or drainage which do not compose more than 0.5% of the wall area are acceptable.	• Conduct construction in conformance with measures herein.	• Applicant • Planning Division • Building Division		
Recommendation NOI-3: In order to comply with noise compatibility standards, the project shall incorporate the following: 1. Provide forced air mechanical ventilation, satisfactory to the local building official, in all residences with partial or full line of sight to North McDowell Blvd. traffic. 2. To maintain interior noise levels at or below 45 dBA CNEL, provide sound-rated windows and doors at Type I and Type II residences facing or perpendicular to North McDowell Boulevard. The degree of sound mitigation needed to achieve an interior CNEL of 45 dBA or less would vary depending on the final design of the building (relative window area to wall area) and the design of the exterior wall assemblies. However, based on the future exterior noise levels and typical residential construction, it is anticipated that windows and doors facing or with a view of North McDowell Boulevard may require STC ratings of between 28 and 30. 3. The specific determination of exterior wall assemblies and window/door STC ratings should be conducted on a unit-by-unit basis during the project design. The results of the analysis, including the description of the necessary noise	• Conduct construction in conformance with measures herein.	• Applicant • Planning Division • Building Division		

CORONA STATION RESIDENTIAL PROJECT MITIGATION MONITORING AND REPORTING PROGRAM				
MITIGATION MEASURE	**IMPLEMENTATION**	**RESPONSIBLE PARTY**	**COMPLETION OF IMPLEMENTATION**	
			ACTIVITY	**DATE COMPLETED**
control treatments, shall be submitted to the City along with the building plans and approved prior to issuance of a building permit.				
Recommendation NOI-4: Install windows with STC ratings of between 28 and 32 for residences adjacent to the rail line to reduce interior maximum levels resulting from train engine noise to the recommended 55 dBA Lmax30 interior levels.	• Conduct construction in conformance with measures herein.	• Applicant • Planning Division • Building Division		
TRANSPORTATION – RECOMMENDED MEASURES				
Recommendation TRAF-1: Existing landscaping on the median island within the North McDowell Boulevard and within the line sight of the eastern driveway, shall be modified to achieve adequate sight lines where left-turn egress would be allowed. Landscaping modification would include removal of bushes and shrubs between the trees as well as a reduction in the height of the berm on the median. Additionally, new landscaping and signage introduced by the project shall be installed in locations and maintained in a manner that does not further introduce sight line conflicts at project driveways.	• Conduct construction in conformance with measures herein.	• Applicant • Planning Division • City Engineer		
UTILITIES AND SERVICE SYSTEMS				
UTIL-1: Prior to issuance of a grading permit, a Final Hydrology and Hydraulic Study shall be prepared to confirm that the proposed combination of site grading, routing of onsite storm water pipe facilities and storm water treatment systems continue to mitigate increases in calculated peak flows to the individual points of concentration around the site, to at or below pre-project conditions.	• Prior to issuance of a grading permit, submit Final Hydrology and Hydraulic Study	• Applicant • Building Division • Public Works and Utilities		