INITIAL STUDY

HAWTHORNE UNDERGROUNDING DISTRICT

PREPARED BY:

Town of Tiburon
Public Works Department
1505 Tiburon Boulevard
Tiburon, CA 94920
Contact: Patrick Barnes
415.435.7354

TECHNICAL ASSISTANCE PROVIDED BY:

Harris & Associates
1401 Willow Pass Road, Suite 500
Concord, CA 94520
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831.419.6800

August 7, 2017

Harris & Associates

Harris & Associates. 2017. Initial Study for the Hawthorne Undergrounding District Project. August. (1601004001**) Concord, CA. Prepared for Town of Tiburon, Tiburon, CA.**

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Acronyms and Abbreviations

AB 32	California's Global Warming Solutions Act
ARB	California Air Resources Board
AQMP	Air Quality Management Plan
BAAB	Bay Area Air Basin
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BMPs	Best management practices
CAAQS	California ambient air quality standards
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
dBA	Decibels
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
HFC	hydrofluorocarbons
Lcnel	Community noise level equivalent
MRZs	Mineral Resource Zones
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NO_2	nitrogen dioxide
NO_X	nitrogen oxide
NCCAB	North Central Coast Air Basin
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
Pb	lead
PFC	perfluorinated carbons
PM	particulate matter
PM10	PM 10 microns in diameter or less
PM2.5	PM 2.5 microns in diameter or less
Project	Hawthorne Undergrounding District Project
ROG	reactive organic gases
SF6	sulfur hexafluoride
SMARA	Surface Mining and Reclamation Act of 1975

SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
Town	Town of Tiburon

Environmental Checklist

1.	**Project Title:**	Hawthorne Undergrounding District
2.	**Lead Agency Name and Address:**	Town of Tiburon Public Works Department1505 Tiburon Boulevard Tiburon, CA 94920
3.	**Contact Person and Phone Number:**	Patrick Barnes, Town Engineer & Director of Public Works (415) 435-7354
4.	**Project Location:**	The Vicinity of 700 Tiburon Boulevard, Town of Tiburon, Marin County, California (see **Figures 1** and **2**)
5.	**Project Sponsor's Name and Address:**	Town of Tiburon Public Works Department 1505 Tiburon Boulevard Tiburon, CA 94920
6.	**General Plan Designation:**	Commercial Parks & Open Space Public/Quasi Public Single Family Residential Vacant
7.	**Zoning:**	Parks & Recreation (P&R) Public/Quasi Public (P) Single Family Residential (R-1) Residential Open (40,000 Square Feet) (RO-1) Residential Open (20,000 Square Feet) (RO-2)
8.	**Description of Project:**	
	Project Overview. The Town of Tiburon (Town) Public Works Department is proposing the Hawthorne Undergrounding Utility Project (Project). The project includes relocating the Pacific Gas & Electric (PG&E) Power, AT&T Telephone, and Comcast Communications aerial facilities to underground along Delmar Drive, Hawthorne Drive, Maravista Court, Palmer Court, Rock Hill Road, Hilary Court, Hilary Drive and portions of Tiburon Boulevard within the Town of Tiburon (**Figure 2**). This area is primarily single-family residential and includes the Belvedere Tennis Club, and local schools and churches. Within the residential portion of the project area, project actions would include the installation of mainline underground power, telephone and cable conduit, appurtenant manholes and pullboxes, and subsurface and surface-located transformers. The project would also include the installation of service conduit and appurtenances to the property lines within the project area. New conductors would be installed within these conduits and underground structures by the utility companies. Lastly, the existing overhead power, telephone and cable wires, utility poles, residential service drops and streetlights would be removed, and new streetlights would be installed to replace those removed. Within the Belvedere Tennis Club portion of the project area, project actions would include the installation of mainline underground power, telephone and cable conduit, appurtenant manholes and pullboxes, and subsurface and surface-located transformers extending under Tiburon Boulevard from the transformer, adjacent to the pump station, connecting to the remainder of the alignments throughout the project area. Within this area, there is an option to underground a portion of the alignment through the	

parking lot of the Belvedere Tennis Club, instead of along Tiburon Boulevard. If this alignment is installed, the underground utilities would reconnect to Tiburon Boulevard at the main entrance to the parking lot, and connect to the remaining alignments throughout the project area. Once the underground facilities are installed, the overhead power lines, telephone and cable wires, and utility poles, including those between the Belvedere Tennis Club and Richardson Bay Linear Park, would be removed (**Figure 2 and Figure 3, Photo 1**).

The purpose of the project is to improve system safety and reliability, as well as neighborhood aesthetics. Undergrounding the utilities improves the safety and reliability of the system, as storms and adverse environmental changes may currently result in broken lines, falling poles and degradation over time. These risks to the utilities would be minimized through the protection offered by undergrounding the wires. New streetlights along Tiburon Boulevard would replace the existing older structures, maintaining safety to adjacent residences. Undergrounding the utility system would improve neighborhood aesthetics because existing views of Richardson Bay from within and adjacent to this residential area are obstructed by the network of utility poles and associated aerial wires, while much of the surrounding area already supports undergrounded utilities (**Figure 3, Photos 2 and 3**).

Project Construction. Construction for the proposed project would take place in several phases over approximately four to six months, and service is expected to remain uninterrupted throughout project implementation.

Phases. The first phase would involve the installation of utility vaults underground. The second phase would install the utility conduits. Once all of the conduits are installed for electric, cable and telephone, each utility would install their conductors. PG&E would install first, then cable and AT&T. Once PG&E has installed their conductor and energized the underground system, they would begin the process of installing the services and transferring the services to the underground system. When all of the overhead services and streetlights are converted, PG&E will remove its overhead facilities. The process is repeated for Comcast and AT&T, with the last utility to remove its facilities, removing the pole. This final phase would involve demolition and removal of the existing utility poles.

Installation of the vaults and conduits would involve site preparation, trench excavation, utility installation, and restoring the trench and site to previous conditions. Removal of the existing utility poles would involve the removal of the existing structures with adequate back filling to restore the remaining holes to the existing grade.

Construction Equipment, Duration, Hauling. The construction equipment fleet would consist of a dozer, backhoe, industrial saw, dump truck, compactor, paver, cement mixer and crane. Installation of the 231 utility enclosures and trenching approximately 9,500 linear feet would generate approximately 740 cubic yards (CY) of export soil to be hauled offsite to the Redwood Landfill and Recycling Center located at 8950 Redwood Highway in City of Novato. This number may be less if it is determined that native soils could be used for backfilling throughout project implementation. The construction of these improvements will conform to existing Town of Tiburon, PG&E, AT&T and Comcast Communications standards.

Construction Hours. The Town's Noise Ordinance (Section 25-1 of the Tiburon Municipal Code) does not include any limitations relevant to construction activities. However, Section 13-6 of the Tiburon Municipal Code limits construction operations to between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday, and between 9:30 a.m. and 4:00 p.m. on Saturday. Construction activities are generally not allowed on Sundays. Construction operations for the project, including equipment arrival, would likely occur from between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday. Consistent with Section 13-6, actual operation of heavy equipment would not begin until 7:30 a.m., although equipment warm up may begin between 7:00 a.m. and 7:30 a.m. Weekend work would not be required for most of project implementation project; however, Caltrans may require night work along the Tiburon Boulevard alignment of the project.

Staging. Construction activities would require several crews of three to five workers. It is expected that project staging and construction worker parking would occur on a paved lot that will be identified by the construction contractor. This area would be within, or in close proximity to, the project area within the

	Town. Geotechnical Considerations. The project area contains a variety of soil types including expansive soils and hard rock in the inland portion upslope. A geotechnical report is being prepared to address design and construction considerations, including landslide potential throughout the project area, soil infiltration rates, CBC seismic parameters, and seismic soil bearing pressures. The report will include specific recommendations for project design and construction, which will be implemented by the project engineers and construction contractor. Traffic Control Plan. Construction activities may involve temporary lane and/or road closures on Delmar Drive, Hawthorne Drive, Maravista Court, Palmer Court, Rock Hill Road, Hilary Court, Hilary Drive and portions of Tiburon Boulevard when the utilities are installed underground and the utility poles are removed. In addition, the Old Rail Trail, a multipurpose recreation path located along the berm adjacent to Belvedere Tennis Club, would be temporarily closed as utility poles are removed from the adjacent ditch. To minimize project effects on local roadways and the Old Rail Trail, the project would include the preparation of a traffic control plan. The control plan would ensure that roadways within the project area and the Old Rail Trail would remain open throughout project implementation to the greatest extent possible, and that lane, roadway and trail closures would be safely and effectively managed with appropriate safety flags and signage. Prior to the start of construction activities, signage would be installed and would include the dates for construction, contact information for the Town liaison to answer project specific questions, and detour information to minimize the effects of temporary closures. If the undergrounding activities include trenching through the Belvedere Tennis Club parking lot, this area may also be closed for approximately five days, as utilities are undergrounded through the lot, connecting the transformer to Tiburon Boulevard. Appropriate signage would be installed prior to the dates of the parking lot closure to alert members of the timeframe for construction activities, and to ensure that all vehicles have been removed prior to parking lot closure. Water Quality Protection. Construction contractors would be required to implement Best Management Practices (BMP's) and measures to control runoff as defined in the project Stormwater Pollution Prevention Plan (SWPPP) (e.g. sand bags around the perimeter of the staging area and/or straw bales). Following project implementation, the staging areas would be returned to pre-project conditions, and would return to normal use.

9.	**Surrounding Land Uses and Setting:**
	The project area is located within the Town of Tiburon, within the San Francisco Bay Area (**Figure 1**). The project area is bound by Richardson Bay to the southwest, with a raised berm that is a remnant of the old railroad right-of-way (**Figure 2**). This berm supports the Old Rail Trail, and separates the project area from the Bay. The Belvedere Tennis Club is located just northeast of the berm trail, with a pump station located to the southeast along Tiburon Boulevard. The remainder of the project area is developed with single family residential units, Saint Hilary Church and School, and the Community Congregational Church. Public streets that are included within the project area in their entirety include Palmer Court, Rock Hill Road, Hawthorne Drive, Maravista Court, and Delmar Drive. The project area also includes portions of Tiburon Boulevard, from approximately Bayshore Terrace to the pump station, and Hilary Drive from the last aboveground utility pole between Theresa Court and Maravista Court to Saint Hilary Church and School (**Figure 2**). There are a ditch and drainages located within the project area (**Figure 2**). The ditch extends between the Belvedere Tennis Club and the Old Rail Trail, and supports stormwater runoff, and a number of manholes and additional utilities (**Figure 2** and **Figure 3, Photos 1, 4, and 5**). **Photo 4** shows the one box culvert located midway along the extent of the tennis club that is culverted to meet the Bay and provides drainage for the tennis club (**Figure 3, Photo 6**). Five electrical poles are also located within this ditch (**Figure 3, Photo 1**). The drainages extend through portions of the project area to the Bay. The drainage adjacent to Belvedere Tennis Club flows north-to-south under Tiburon Boulevard and extends between the Belvedere Tennis Club and the residences located on the east side of Palmer Court (**Figure 2** and **Figure 3, Photo 7**). This drainage intersects the ditch at the Old Rail Trail berm, connecting to a culvert that meets the Bay through the berm **(Figure 3, Photo 8**)**.** The second drainage extends from Hilary Drive, where it flows north-to-south from Hilary Drive, under Hawthorne Drive, to Tiburon Boulevard (**Figure 3, Photos 9, 10 and 11**). Surrounding land uses include additional single family residential development, where utilities have previously been undergrounded, to the northwest and southeast of the project area, Richardson Bay to the southwest, and the Middle Ridge Public Open Space to the northeast.
10.	**Other Public Agencies Whose Approval is Required:**
	• California Department of Transportation Encroachment Permit • San Francisco Bay Conservation and Development Commission Regionwide Permit for Ground Disturbance and Trail Closure Activities within 100 Feet of the Shoreline of the Bay • Town of Tiburon Planning Department Passing Assessment District, Street Opening Permits and Electrical Permits for Panel Conversions

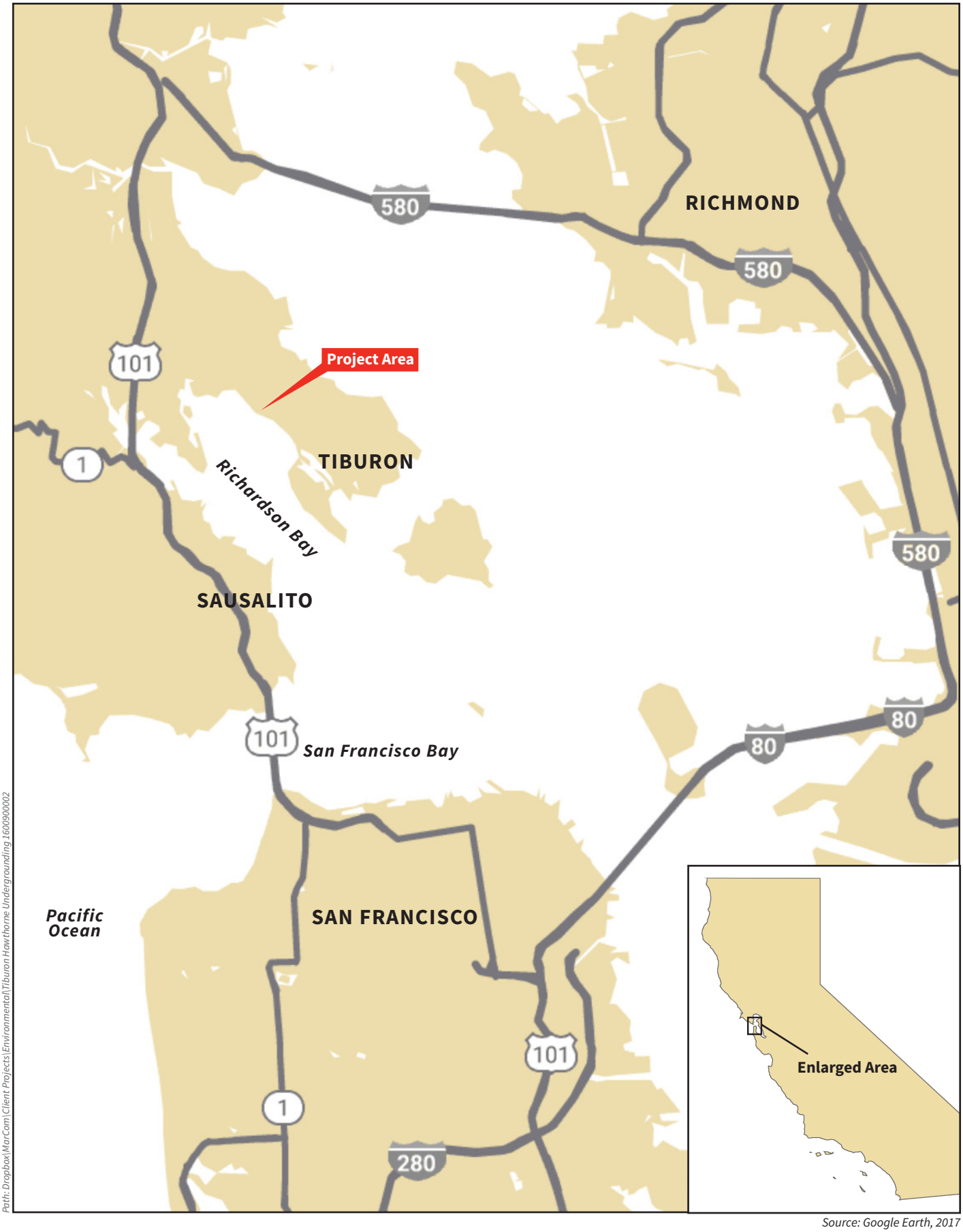

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Figure 1
Project Location

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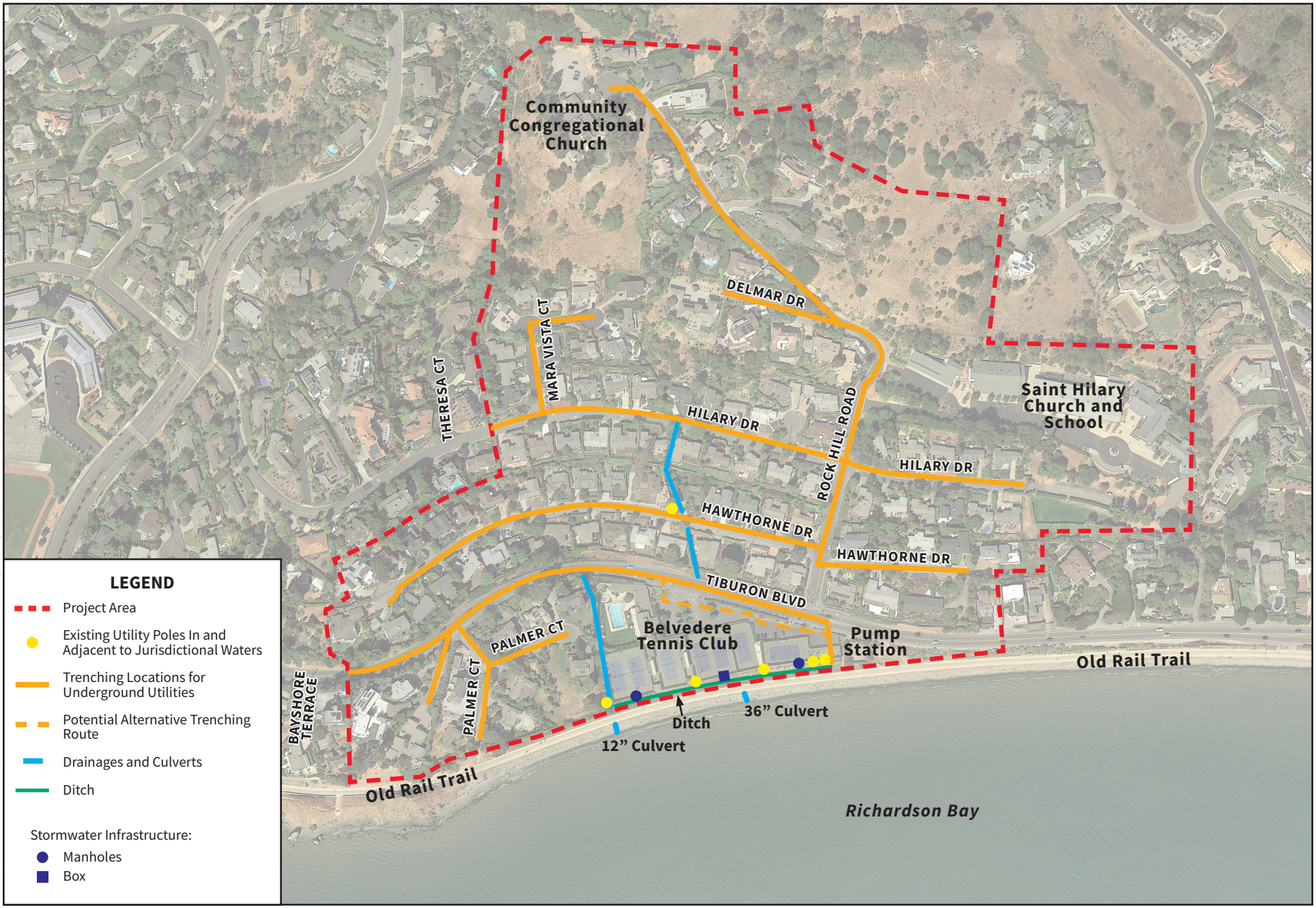

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Figure 2
Project Area

Photo 1. *Ditch between Belvedere Tennis Club and Old Rail Trail berm, showing four utility poles to be removed.*

Photo 2. *View of utility lines from Hawthorne Drive looking south towards Richardson Bay.*

Photo 3. *View of utility lines from the top of Rock Hill Road looking south towards Richardson Bay.*

Photo 4. *Stormwater box located in the ditch between Belvedere Tennis Club and Old Rail Trail berm.*

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Harris & Associates

No scale

Figure 3a
Reference Photographs 1-4

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Photo 5. *Manhole cover for stormwater conveyance, located in the ditch between Belvedere Tennis Club and Old Rail Trail berm.*

Photo 6. *36" culvert flowing into Richardson Bay.*

Photo 7. *Unnamed drainage and associated riparian vegetation between Belvedere Tennis Club and Palmer Court.*

Photo 8. *12" culvert flowing into Richardson Bay.*

Harris & Associates

No scale

Figure 3b
Reference Photographs 5-8

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Photo 9. *Stormwater grate located on the south side of Hilary Drive.*

Photo 10. *Concrete-lined unnamed drainage on north (upslope) side of Hawthorne Drive.*

Photo 11. *12" culverts that convey unnamed drainage under Hawthorne Drive. These culverts are located on the south (downstream) side of the street.*

Photo 12. *Utility pole proposed for removal on Hawthorne Drive is located adjacent to the 12" culverts and unnamed drainage on the south (downstream side of the road).*

Harris & Associates

No scale

Figure 3c
Reference Photographs 9-12

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Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., mitigation measures are required to ensure a potential impact is less than significant).

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

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to 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 an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature — Date: 8/7/17

PATRICK BARNES
Printed Name — For

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I. Aesthetics		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
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 along a scenic highway?	☐	☐	☐	☒
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Existing Conditions

The project area is located within the Town of Tiburon, adjacent to Richardson Bay, within the greater San Francisco Bay Area. The project area meets the Bay to the southwest and includes single family residential development, Saint Hilary Church and School, the Community Congregational Church, and Belvedere Tennis Club. The Old Rail Trail, which is located between the project area and the Bay, falls within bay front of the Town, and is an area in which visual access should be protected, as identified in the Tiburon General Plan (Town of Tiburon General Plan, View Policy OC-32). Tiburon Boulevard (SR 131) traverses the project area in a northwest-southeast direction, and has also been identified as a key roadway along which views shall be protected through the Tiburon General Plan (Town of Tiburon General Plan, View Policy OSC-29).

The Town of Tiburon is located on a Peninsula extending from southeastern Marin County into the San Francisco Bay, approximately seven miles north of San Francisco. The Town is characterized by sweeping views of the Bay, interspersed with commercial and residential development that has been planned in order to preserve open space and views throughout the Town. The residential neighborhood within the project area provides many unobstructed views of Richardson Bay, as well as the Golden Gate Bridge and neighboring bay area communities.

Discussion

a, c. Scenic Vista; Visual Character of Site and Surroundings. Scenic vistas generally include areas that are designated by a local jurisdiction to have scenic or community value, but may also include areas that have a high level of viewer sensitivity, such as a lookout point. The project area, in its entirety, provides both intermittent and unobstructed views of the Bay, as well as the Golden Gate Bridge and neighboring communities that surround the Bay, from within the residential development and along Tiburon Boulevard and the Old Rail Trail (**Figure 3, Photos 2 and 3**). The Town of Tiburon General Plan includes a number of View Policies to protect open space views, as

well as bay front and scenic vistas of the water and distinct shorelines, from throughout the Town (Town of Tiburon General Plan, View Policies OSC-29 and OSC-32). In accordance with these policies, the views from within the project area, and in particular Tiburon Boulevard and the Old Rail Trail, would fall within the parameters of areas in which views should be protected, to the greatest extent feasible, through project implementation.

Implementation of the project would underground the existing above ground utilities, and remove utility poles and associated wires throughout the project area. This would provide enhanced views of the Bay and surrounding communities from within the residential neighborhood, roadways, the Belvedere Tennis Club, and the Old Rail Trail within the project area. It would also provide enhanced views from areas located adjacent to the project area, including the Middle Ridge Public Open Space northeast of the project area. Although construction activities would disrupt views temporarily, the project would result in a long-term beneficial impact to scenic resources. Therefore, the overall impact would be less-than-significant.

b. Scenic Highways. There are no scenic highways that have been identified by Caltrans within the project area. Therefore, the project would not result in any impacts to scenic highways.

d. New Sources of Light and Glare. Existing sources of light and glare in the project area include street lamps and lighting from residences, the Belvedere Tennis Club and around the tennis courts, and along the Old Rail Trail. Implementation of the project would replace the existing lights that are removed through project implementation with new light fixtures, but would not introduce any new permanent sources of light into the project area. All lights that are installed through project implementation would be in accordance with the Town's exterior lighting policies, and would therefore be the lowest voltage to provide safe conditions and shielded downward. The remaining light within the project area would remain the same following project implementation, and no permanent land use changes are proposed by the project. Therefore, the project would not create substantial new sources of light or glare within the project vicinity that could affect day or nighttime views. No impact would occur.

II. Agricultural and Forestry Resources		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:					
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 conflict with 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 that, 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?	☐	☐	☐	☒

Existing Conditions

Within the Town of Tiburon, there is no land that has been identified as Prime Farmland, Unique Farmland or Farmland of Statewide Importance on the Marin County Important Farmland map that has been developed by the State Department of Conservation, Office of Land Conservation's Farmland Mapping and Monitoring Program.

The Town of Tiburon General Plan (Town of Tiburon, 2005) has zoned the project area as Residential, Public/Quasi Public and Park & Recreation. Land uses within the project area do not support forest land or timberland.

Discussion

a-e. Conversion of Farmland, Conflict with Williamson Act, Conflict with Zoning for Forest Land, Timberland or Timberland Production, Loss of Forest Land, Conversion of Farmland. There has been no land within the project area that has been identified as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. The project would not result in conflicts with existing zoning or Williamson Act contracts because the project area is not zoned for agricultural use nor subject to an existing Williamson Act contract. The project area is mainly located in the public road right-of-way, as the majority of the proposed project involves removing aboveground utilities along public roadways and replacing them with undergrounded utilities. Existing land uses throughout the extent of the project area are predominately residential and also include a school, churches and the Belvedere Tennis Club, all of which would remain unchanged through project implementation. Therefore, the project would not result in a conflict with existing zoning, and would not cause rezoning of forest land, timberland, or timberland zoned for Timberland Production. There would be no loss of forest land or conversion of forest land to non-forest use because implementation of the project would not result in the removal of any trees, and is not considered forest land. Implementation of the project is not expected to involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to a non-agricultural use. Therefore, there would be no impact.

III. Air Quality		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Existing Conditions

Air Quality Standards and Attainment Status

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) have established national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS), respectively, for six criteria pollutants: ozone, CO, lead (Pb), nitrogen dioxide (NO_2), sulfur dioxide(SO_2), and particulate matter (PM), which consists of PM that is 10 microns in diameter or less (PM10) and PM that is 2.5 microns in diameter or less (PM2.5). The project area is located within the San Francisco Bay Area (Bay Area) Air Basin. Air quality in the Bay Area Air Basin (BAAB) is governed by the Bay Area Air Quality Management District (BAAQMD).

Ozone and NO_2 are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. NO_2 reacts photochemically with reactive organic gases (ROGs) to form ozone, and this reaction occurs at some distance downwind of the source of pollutants. Pollutants such as CO, SO_2, and Pb are considered to be local pollutants that tend to accumulate in the air locally. Particulate matter is considered to be a local as well as a regional pollutant. The primary pollutants of concern in the study area are ozone (including nitrogen oxides), CO, and PM.

Air basins are classified as either "attainment" or "nonattainment" by comparing the monitored air pollutant concentrations to the NAAQS and CAAQS. If a pollutant concentration is lower than the state or

federal standard, the area is classified as being in attainment of the standard for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. The BAAQMD is responsible for ensuring that NAAQS and CAAQS are not violated within the BAAB, and for implementing strategies for air quality improvement and recommending mitigation measures for new growth and development. The BAAQMD 2010 Climate Action Plan (CAP) is the applicable air quality plan for the project area.

The BAAB is currently classified as non-attainment for the 1-hour State ozone standard, as well as for the federal and State 8-hour standards. Additionally, the BAAB is classified as non-attainment for the State 24-hour and annual arithmetic mean PM10 standards as well as the State annual arithmetic mean and the federal 24-hour PM2.5 standards (BAAQMD 2017).

Sensitive Land Uses

The BAAQMD generally defines a sensitive receptor as residences including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade 12 (K-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor also includes long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing (Bay Area Air Quality Management District 2012).

Sensitive receptors within the project area include residences throughout the project area and Saint Hilary's School.

Discussion

a. Conflict With or Obstruct Air Quality Plan. The BAAQMD 2010 CAP is the applicable air quality plan for the proposed project. A Draft 2017 Clean Air Plan has been made available for public review but has not yet been adopted. A project would conflict with the CAP if it would not support the three primary goals of the CAP, result in significant and unavoidable air quality impacts, or hinder or fail to implement applicable emissions control measures (BAAQMD 2012). The three primary goals of the CAP are to:

- Attain air quality standards;
- Reduce population exposure and protect public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

Implementation of the project would not result in any new source of permanent operational criteria air pollutant or greenhouse gas (GHG) emissions. Construction emissions would be minimal and generated for less than one year. As such, the project would not hinder the ability of the BAAQMD to meet air quality standards, protect public health, or reduce GHG emissions. The project would also not result in any significant or unavoidable air quality impacts. Finally, the CAP Control Measures include one measure relevant to construction, MSM C-1 (BAAQMD 2010b). The purpose of the measure is to reduce ozone precursors, diesel particulate matter, and carbon dioxide emissions from construction equipment by encouraging fleet retrofits and to coordinate with state agencies to develop more fuel-efficient equipment. The construction fleet selected for the project would be required by law to comply with all current fleet emissions standards. Construction of the proposed project would not hinder implementation of the MSM C-1. There are no control measures related to operation of underground

utility lines. Therefore, the proposed project would result in a less-than-significant impact related to implementation of the 2010 CAP, and no mitigation would be required.

b. Violate Air Quality Standards or Contribute to an Air Quality Violation. Project construction activities would result in temporary increases in air pollutant emissions from construction equipment exhaust, earth disturbance, and construction worker vehicle trips to and from the construction site. Air pollutant emissions were estimated using anticipated worst-case construction activity information and the emission factors included in the CalEEMod model, Version 2013.2.2, which takes into account the hours of operation, load factor and the emission factors for each piece of equipment (**Appendix A**).

The first phase would involve the installation of utility vaults underground. The second phase would install the utility conduits. Once all of the conduits are installed for electric, cable and telephone, each utility would install their conductors. PG&E would install first, then cable and AT&T. Once PG&E has installed their conductor and energized the underground system, they would begin the process of installing the services and transferring the services to the underground system. When all of the overhead services and streetlights are converted, PG&E will remove its overhead facilities. The process is repeated for Comcast and AT&T, with the last utility to remove its facilities, removing the pole. This final phase would involve demolition and removal of the existing utility poles.

Installation of the vaults and conduits would involve site preparation, trench excavation, utility installation, and restoring the trench and site to previous conditions. Removal of the existing utility poles would involve the removal of the existing structures with adequate back filling to restore the remaining holes to the existing grade.

The construction equipment fleet would consist of a dozer, backhoe, industrial saw, dump truck, compactor, paver, cement mixer and crane. Installation of the 231 utility enclosures and trenching approximately 9,500 linear feet would generate approximately 740 cubic yards (CY) of export soil to be hauled offsite to the Redwood Landfill and Recycling Center located at 8950 Redwood Highway in City of Novato. This number may be less if it is determined that native soils could be used for backfilling throughout project implementation. The construction of these improvements will conform to existing Town of Tiburon, PG&E, AT&T and Comcast Communications standards.

The estimated emissions that would result from project construction are included in **Table AQ-1**. Emissions are compared to the 2010 BAAQMD significance thresholds for VOCs, NO_x, and particulate emissions. The 2010 significance thresholds for criteria pollutants have been eliminated from the most recent May 2012 guidelines as a result of a court order, which requires the BAAQMD to set aside approval of the thresholds until it has conducted further environmental review under CEQA. However, the claims made in the case concerned the environmental impacts of adopting the thresholds, rather than the scientific soundness of the BAAQMD's analysis of what levels of pollutants should be deemed significant. Additionally, the thresholds are more conservative than the BAAQMD's previously adopted 1999 thresholds, which are the thresholds currently recommended by the BAAQMD. As such, the Town, as lead agency, has determined that the 2010 thresholds are supported by substantial evidence and appropriate to use for this analysis. Neither the 2010 nor 2012 significance thresholds include a threshold for CO or SO_2 during construction. Thus, the project is compared to the 1999 BAAQMD operational screening level for CO, and the South Coast Air Quality Management District (SCAQMD) threshold for SO_2 (SCAQMD 2015). Similar to the Bay Area air basin, the South Coast Air Basin is highly urbanized.

Table AQ-1 Construction Daily Maximum Air Pollutant Emissions

	Maximum Daily Emissions (pounds/day)					
Construction Phase	**VOC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Installation of Vaults	2	18	14	<1	2	1
Installation of Conduits	2	21	17	<1	2	1
Existing Pole Removal	2	19	13	<1	2	1
Worst-Case Construction	**2**	**21**	**17**	**<1**	**2**	**1**
Significance Threshold	54	54	550	150	82	54
Significant Impact?	No	No	No	No	No	No
*Emission quantities are rounded to the nearest whole number. Exact values are provided in **Appendix A** (CalEEMod, version 2013.2.2)						

As shown in **Table AQ-1**, all emissions are well below the significance thresholds. However, the BAAQMD has identified a set of basic air quality control measures for construction activities for all proposed projects to minimize direct and cumulative exposure to dust during construction. Therefore, this impact is considered less than significant with implementation of the standard BAAQMD control measures (**Mitigation Measure AQ-1)**.

Following project installation and construction activities, the operation of the underground utilities would not generate operational air pollutant emissions. No impact would occur during operation.

Mitigation Measure AQ-1, Implement BAAQMD Measures to Reduce Dust and Emissions during Construction. In accordance with the BAAQMD CEQA Guidelines, (BAAQMD 2012), the project will implement the following control measures during construction and ground-disturbing activities to minimize dust from escaping from the project area throughout construction activities.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) would be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site would be covered.
3. All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping would be prohibited.
4. All vehicle speeds on unpaved roads would be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved would be completed as soon as possible. Building pads would be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times would 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 would be provided for construction workers at all access points.

7. All construction equipment would be maintained and properly tuned in accordance with manufacturer's specifications. All equipment would be checked by a certified visible emissions evaluator.

8. Publicly posted visible signs, with the telephone number and person to contact at the Town regarding dust complaints, would be visible throughout the project area for the duration of construction activities. This person would respond and take corrective actions within 48 hours. The BAAQMD's phone number would also be visible to ensure compliance with applicable regulations.

c. Result in a Cumulatively Considerable Net Increase of Criteria Pollutants. As discussed above, the project would not contribute a substantial amount of any criteria pollutant during construction. Another planned project that could be constructed in the same timeframe as the proposed project is the Virginia Undergrounding Project, which also would be required to adhere to BAAQMD's basic control measures to minimize temporary emissions. Similar to the proposed project, the Virginia Undergrounding Project would not result in a permanent increase in emissions as the undergrounding of the utilities would not create any permanent operational emissions. Because these projects would not exceed the thresholds of significance and would implement the basic control measures defined in **Mitigation Measure AQ-1**, these projects would have a less-than-significant cumulative impact on air quality during construction. Following construction, the proposed projects would not generate new operational emissions, and would have no impact on the cumulative increases to criteria pollutants.

d. Expose Sensitive Receptors to Substantial Pollutant Concentrations. The construction activities that would occur through implementation of the project would come within close proximity to residences and Saint Hilary School. Therefore, sensitive receptors, including residents, and staff and students of Saint Hilary's, would be exposed to short-term fugitive dust emissions while construction takes place within the vicinity of these locations.

Implementation of **Mitigation Measure AQ-1**, which would require construction practices to minimize airborne particulates, would minimize exposure of sensitive receptors to fugitive dust emissions. Therefore, this impact would be less-than-significant with mitigation.

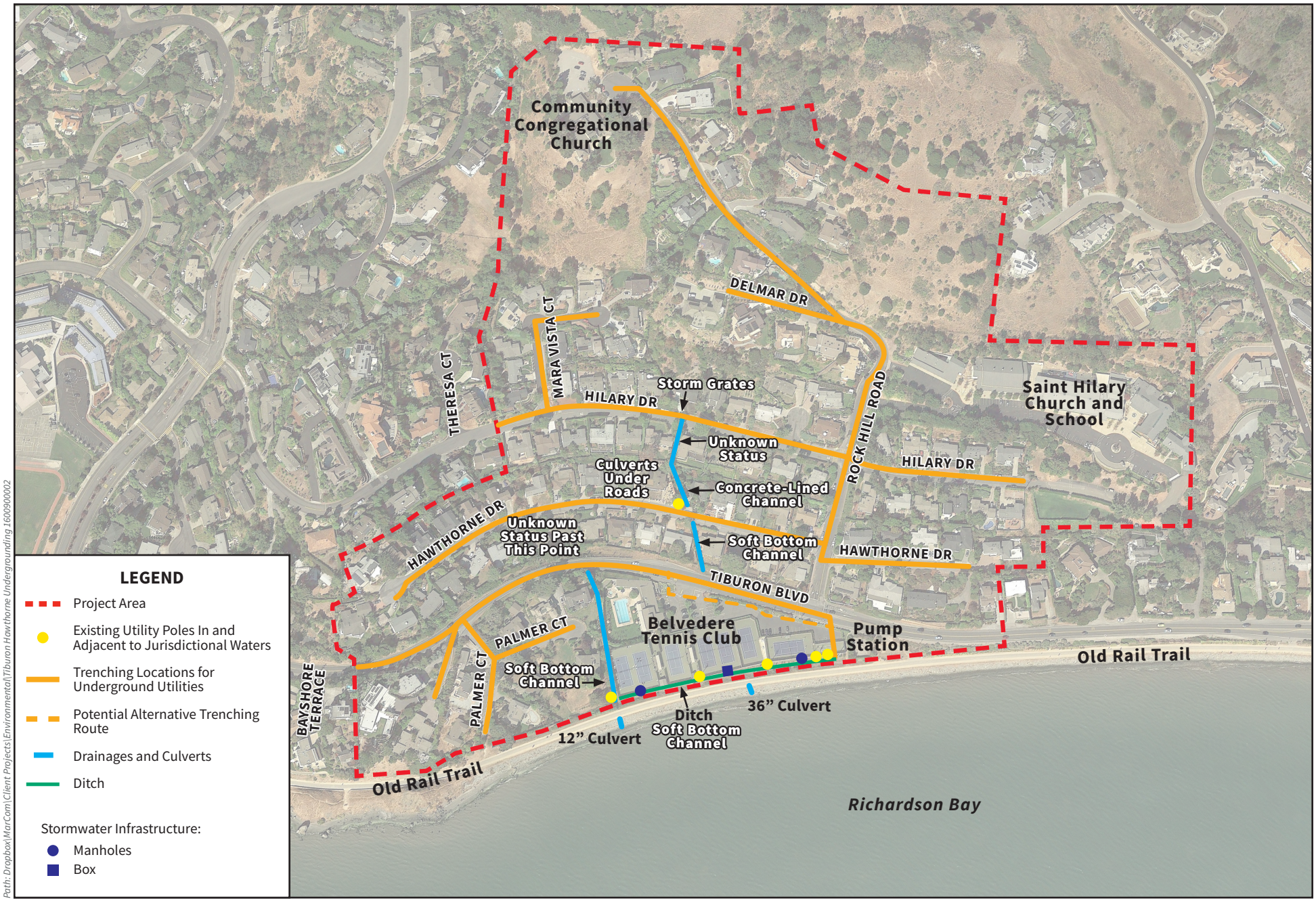
e. Create Objectionable Odors Affecting a Substantial Number of People. Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. Any project with the potential to frequently expose the public to objectionable odors would have a significant impact. According to ARB's (2005) Air Quality and Land Use Handbook, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, refining, and manufacturing.

The project may cause temporary odors resulting from diesel exhaust during construction. Although these emissions may be noticeable from time to time, they would be intermittent and localized and are not likely to adversely affect adjacent receptors. Implementation of the project would result in undergrounding the existing aboveground utility system with new underground infrastructure. The existing infrastructure does not create objectionable odors, and placement of these utilities underground would not create any new sources of objectionable odors. Therefore, this impact would be less-than-significant. No mitigation would be required.

IV. Biological Resources		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
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 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, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, 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?	☐	☐	☐	☒

Existing Conditions

The project area is located within the Town of Tiburon and is highly developed in nature, including Tiburon Boulevard, residential development, Belvedere Tennis Club, Saint Hilary's Church and School, the Community Congregational Church, the Old Rail Trail and associated berm, paved roads and sidewalks, and landscaping. The natural areas within the project area include a small ditch, between the Belvedere Tennis Club and the Old Rail Trail, and two unnamed drainages. One drainage flows under Tiburon Boulevard from north to south, then between the west edge of the tennis club and Palmer Court to the Bay. The other drainage flows north to south under Hawthorne Drive (**Figure 4**).



Path: Dropbox\MarCom\Client Projects\Environmental\Tiburon Hawthorne Undergrounding 1600900002

Source: Google Earth, 2017

Harris & Associates

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Figure 4
Ditch and Drainage Characteristics

The ditch between the Belvedere Tennis Club and Old Rail Trail runs along the base of the berm that supports the trail (**Figure 4**). It is lower in elevation than both the trail and tennis club, and contains several raised stormwater system infrastructure features (**Figure 3, Photos 1, 4 and 5**). Based on a July 13, 2017, site visit conducted by biologists, the vegetation in the ditch is mostly ruderal and invasive, including: bristly ox tongue (*Picris echioides*), fennel (*Foeniculum vulgare*), field mustard (*Brassica* spp.), Himalayan blackberry (*Rubus armeniacus*), wild radish (*Raphanus raphanistrum*), English ivy (*Hedera helix*), mint (*Mentha* spp.), curly dock (*Rumex crispus*), and pampas grass (*Cortaderia selloana*). The vegetation was mowed prior to the July 13 site visit, adding to the disturbed characteristics of the site. Despite the marginal quality of the habitat of the ditch, it does exhibit at least two of the three characteristics of a wetland: hydrology (the shape of the ditch suggests that it may hold water for at least 14 days), and vegetation (many of the invasive plants are indicative of wetter areas). The soil of the berm and ditch is comprised of "fill" brought to the site many years ago to create the berm, and it may or may not exhibit characteristics of wetland soils, which would provide the final wetland determinant. Because not all three wetland characteristics exist in the ditch, this area is exempt from United States Army Corps of Engineers (USACE) jurisdiction (Environmental Laboratory, 1987). However, because the California Department of Fish and Wildlife (CDFW) jurisdiction is much larger than the USACE, it does qualify for regulation under the California Fish and Game Code (1600 series). The ditch is also located within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC).

The drainage that flows under Tiburon Boulevard, which is adjacent to the tennis club and Palmer Court, is also compromised due to the presence of invasive species like weeping willow (*Salix babylonica*), English ivy, pampas grass, mint, morning glory (*Ipomoea purpurea*), fennel, Himalayan blackberry, and bull thistle (*Cirsium vulgare*) (**Figure 3, Photo 7 and Figure 4**). The presence of these invasive species decreases the quality of the riparian habitat in the corridor by altering the physical, hydrological, chemical, and other aspects of this system. However, the drainage did contain flowing water during the July 13 field visit, and therefore is within the jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), BCDC, and CDFW.

The drainage that flows under Hawthorne Drive is a cement-lined channel on the north side of the street; and after flowing through a culvert under the street, it emerges into a soft-bottom channel with algae (indicating slow flows and higher water temperatures) and vegetated banks (**Figure 3, Photos 10 and 11, Figure 4**). This drainage contains invasive species, including English ivy and Himalayan blackberry, but also native species including sedges (*Carex* spp.). This drainage could be affected by removal of the utility pole adjacent to the drainage and trenching activities on Hawthorne Drive, that intersect with a culvert that conveys this drainage under the road (**Figure 3, Photos 10, 11 and 12**). This drainage is in the jurisdiction of the USACE and CDFW, and potentially RWQCB if compliance with Clean Water Act section 401 is necessary.

In summary, the project contains two drainages and their associated riparian vegetation, and both are under jurisdiction of USACE, RWQCB, and CDFW. The drainage extending under Tiburon Boulevard on the north side of Belvedere Tennis Club is also partially within BCDC jurisdiction because of its proximity (within 100 feet) of the Bay. The ditch between the Belvedere Tennis Club and Old Rail Trail is a wetland of the State and is under CDFW jurisdiction, and is also within BCDC jurisdiction because of its proximity to the Bay.

The impact discussion below focuses on potential impacts based on the CEQA environmental checklist (Appendix G of the State CEQA Guidelines). Refer to **Appendix B**, Regulatory Setting, for more information about the regulatory setting for biological resources in the project area.

Discussion

a. Adverse Effect on Any Species Identified as a Candidate, Sensitive, or Special-Status Species. A list of candidate, sensitive, and special-status species was compiled from the California Natural Diversity Database (CNDDB) for the San Quentin USGS 7.5' quadrangle. **Table BIO-1** includes those species that may potentially occur within the project area. **Appendix C** includes an expanded table with all species that were evaluated from the CNDDB records. Each species and habitat identified in the database was assessed for its likelihood of occurring within the project area. In general, the majority of the project activities (trenching and utility undergrounding) will be implemented within rights-of-way of public roadways, which are completely paved and do not provide habitat for any candidate, sensitive, or special-status species. In conjunction with the placement of utilities underground, the poles and current utility lines would be removed. The majority of the utility poles proposed for removal are also in roadways and adjacent rights-of-way, and their removal would not affect candidate, sensitive, or special-status species. Only one species, Point Reyes salty bird's-beak (*Chloropyron maritiumum* ssp. *plaustre*), was identified as potentially occurring within the project area. Another, the California red-legged frog (*Rana draytonii*), is known to occur nearby, and potential aquatic dispersal habitat is found within the project area. Both species are discussed below.

Point Reyes salty bird's-beak, which is listed by the BLM as a sensitive species, may occur within the project area. Habitat supporting this species includes marsh, swamp, salt marsh or wetlands habitat. It is unlikely that this species occurs in the ditch or drainages in the project area because Point Reyes salty bird's-beak is found in coastal salt marsh, and the vegetation indicates that the ditch in the project site is likely not salty. Additionally, the ditch is highly overgrown and disturbed (the site was mowed prior to a site visit on July 13, 2017), and contains invasive species such as fennel, mustard, Himalayan blackberry, wild radish, and English ivy. Because the project site does not contain habitat for Point Reyes salty bird's-beak, implementation of the project will not impact this species.

The California red-legged frog (CRLF), which is listed by US Fish and Wildlife Service as a federally-threatened species, is found in freshwater aquatic habitats, including marshes, swamps, and wetlands, as well as upland habitats that stay moist enough for summer aestivation. CRLF is known to occur in the Tiburon Uplands Preserve, approximately 1.5 miles away from the project area. CRLF are known to travel through riparian habitats and up to three miles overland in upland habitat during rainy nights. It is possible that CRLF could find their way from the Tiburon Uplands Preserve into the drainages in the project area. However, because of the small size of the drainages and highly developed nature of the surrounding area, CRLF presence is unlikely. Because only two poles are proposed for removal from a drainage, the potential impacts to CRLF habitat are small and temporary in nature. The impacts to CRLF would be less than significant with implementation of **Mitigation Measures BIO-1** and **BIO-2**.

Mitigation Measure BIO-1, Conduct Environmental Awareness Training Prior to Construction: Prior to construction, a qualified biologist will conduct environmental awareness training for all construction workers involved in ground-disturbing activities to educate workers on (1) special-status species that may occur in the work area, (2) procedures to follow in the event a species is observed, and

(3) other environmental best management practices (BMPs). This will include preparing necessary educational materials, such as a power point presentation and handouts that can be used in the field.

Mitigation Measure BIO-2, Conduct Preconstruction Surveys for California Red Legged Frog: Within 48 hours of utility pole removal in the drainages, a qualified biologist will conduct preconstruction surveys for California red-legged frog (CRLF) within and adjacent to the drainages where the two utility poles will be removed. If CRLF are found, construction will be delayed until monitoring by a qualified biologist confirms that CRLF have left the area in which they could be impacted by construction activities.

Table Bio-1 Sensitive Species and their Potential to Occur within the Project Area

Species	Scientific Name	Status (Fed/State/ Other)	Habitat	Potential to Occur within the Project Area
Wildlife				
California red-legged frog	*Rana draytonii*	*T/-/SSC*	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Known to occur 1.5 miles from project area. Could travel overland into project area, but unlikely due to developed nature and little habitat availability
Great egret	*Accipiter cooperii*	-/-/WL	Colonial nester in large trees.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
Great blue heron	*Ardea herodias*	-/-/S	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
Snowy egret	*Egretta thula*	-/-/-	Colonial nester, with nest sites situated in protected beds of dense tules.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
White-tailed kite	*Elanus leucurus*	-/-/FP, S	Rolling foothills and valley margins with scattered oaks & river	No nesting habitat in the project area; marginal foraging habitat is available in the ditch

			bottomlands or marshes next to deciduous woodland.	and riparian habitats
Plants				
Point Reyes salty bird's beak	*Chloropyron maritimum ssp. palustre*	-/-/1B.2, S	Coastal salt marsh.	Although this species is identified as potentially occurring in the project area, the site is not wet or salty enough for this species or its associated species
Refer to **Appendix C** for additional information E = Endangered T = Threatened SSC: CDFW Species of Special Concern S: BLM, USFWS or CDFW Sensitive Species				

b. Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community. The project could affect riparian habit or other sensitive natural communities associated with the drainage under Hawthorne Drive, the drainage adjacent to Belvedere Tennis Club, and the ditch between the Belvedere Tennis Club and Old Rail Trail berm.

Drainage under Hawthorne Drive. The drainage under Hawthorne Drive is concrete-lined on the upslope side and is soft-bottom and vegetated on the downstream side; it contained flowing water during the site visit on July 13, 2017 **(Figure 3, Photo 10,** and **Figure 4).** As discussed above, this drainage is under the jurisdiction of the USACE, RWQCB, and CDFW. The project proposes to underground utilities along Hawthorne Drive by trenching along the paved portion of the street. Because culverts would not be disturbed, jurisdictional waters would not be affected by project activities, and there will be no impacts to any riparian habitat or other sensitive natural communities.

One pole on Hawthorne Drive planned for removal is adjacent to this drainage, and is located just above a stabilizing wall and associated culvert (**Figure 3, Photo 12**). This drainage also flows to the Bay and is under the jurisdiction of the USACE, RWQCB, and CDFW. The pole is not in the drainage, and, if proper avoidance measures are taken to prevent any materials from falling into the drainage, minimal impacts are expected from the removal of this pole. Through implementation of **Mitigation Measures BIO-3 – BIO-7**, which limit work to within the dry season (April 15 – November 15), require the demarcation of sensitive habitats, and provisions for requirements to reduce soil impacts into sensitive habitats, impacts to riparian habitat or other sensitive natural communities in this drainage will be less-than-significant.

Drainage Adjacent to Belvedere Tennis Club. The project proposes to remove one pole at the southwest corner of the Belvedere Tennis Club and Old Rail Trail, located within a small drainage that conveys water to the Bay **(Figure 4).** This drainage contained flowing water during the site visit on July 13, 2017, and is therefore under the jurisdiction of the USACE, RWQCB, and CDFW. Because no grading is proposed in association with pole removal and there would be minimal "fallback" of material into the creek, the USACE would not require a CWA permit (**Appendix B,** Regulatory Setting). CDFW section 1600 requires notification for a Lake and Streambed Alteration Agreement if project activities will "substantially affect" waters of the state and riparian area. Through implementation of **Mitigation Measures BIO-3 – BIO-7**, which limit work to within the dry season (April 15 – November 15), require the demarcation of sensitive habitats, and provisions for requirements to reduce soil impacts into sensitive habitats, impacts to riparian habitat or other sensitive natural communities in this drainage will be less-than-significant.

Ditch. The project proposes to remove four power poles located in a ditch between the tennis courts of the Belvedere Tennis Club and the Old Rail Trail **(Figure 4)**. This ditch does not qualify as a wetland under USACE jurisdiction, but is within the jurisdiction of CDFW as a wetland of the state. CDFW section 1600 requires notification for a Lake and Streambed Alteration Agreement if project activities will "substantially affect" waters of the state and riparian areas. Through implementation of **Mitigation Measures BIO-3 – BIO-7**, which limit work to within the dry season (April 15 – November 15), require the demarcation of sensitive habitats, and provisions for requirements to reduce soil impacts into sensitive habitats, impacts to riparian habitat or other sensitive natural communities in this ditch will be less-than-significant.

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Mitigation Measure BIO-3, Limit Construction near the Ditch and Drainages to the Dry Season, or Employ Protection Measures During the Rainy Season: The Town and/or their construction contractor will ensure that construction activities within 5 feet of the ditch and drainages in the project area (identified on **Figure 4**) will occur during the dry season (April 15 – November 15) and not the rainy season (November 15 – April 15). If construction must occur during the rainy season, the following protection measures will be employed: 1) Prior to the rainy season, a qualified biologist will be consulted to determine if construction during this time period results in any additional impacts to the ditch and drainages and what further mitigation measures may be needed to prevent these impacts (e.g., implement erosion control measures such as straw wattles, silt fence, mats or mulching); and 2) When feasible, during the rainy season, the construction contractor will implement a 'weather triggered" (i.e., 40 percent or greater chance of rain) action plan to inspect, repair, and/or upgrade BMPs as necessary during periods of inclement weather.

Mitigation Measure BIO-4, Limit Access Routes and Encroachment into the Ditch and Drainages: Prior to work in or near drainages or the ditch, a qualified biologist will identify and demarcate limits of required access routes and encroachment into the ditch and drainages which are sensitive habitat. These provisions will protect jurisdictional waters and wetlands while still allowing for necessary work.

Mitigation Measure BIO-5, Site Staging Areas Away from Sensitive Resources: During construction, the construction contractor will avoid parking or servicing construction vehicles near drainages and the ditch to avoid spills/leaks of fluids into riparian areas and streams; these chemicals are toxic to wildlife and vegetation. Additionally, the construction contractor will restrict stockpiling materials including equipment, vehicles and supplies to designated construction staging areas, away from drainages. This measure will prevent erosion directly into sensitive habitat and waters, which can alter hydrology and harm plant and animal species by diminishing water quality.

Mitigation Measure BIO-6, Employ Erosion Control near the Ditch and Drainages: During construction, the construction contractor will implement erosion control measures for removal of utility poles in and adjacent to the ditch and drainages. Construction crews will implement BMPs during construction for protecting water quality, including avoidance of drainages and wetlands or minimizing impacts with the use of straw wattles, straw bales, and/or erosion control fabric. This measure will prevent erosion directly into jurisdictional waters and wetlands, which can alter hydrology and harm plant and animal species by diminishing water quality.

Mitigation Measure BIO-7, Avoid Disturbing Culverts during Undergrounding Construction Activities: During construction, the construction contractor will avoid disturbance of culverts that convey water under roads for the two drainages within the project area, including the drainage under Hawthorne Drive and the drainage under Tiburon Boulevard, while trenching. Utilities may be located above or below the culvert in project final design; however, the culverts will remain in place and will not be touched, replaced or changed in any way through project implementation.

c. Adverse Effect on Federally Protected Wetlands. The ditch is a jurisdictional wetland of the State, but not of the US. Therefore, there are no federally protected wetlands, as defined by Section 404 of the Clean Water Act, in the project area, and therefore no impacts to these resources.

d. Interfere Substantially with Native Resident or Migratory Fish or Wildlife Species. The trenching and undergrounding of utilities associated with this project would be implemented within rights-of-way of public roads, which are paved and/or disturbed and do not contain habitat for native resident or migratory fish or wildlife species.

The removal of existing utility poles and overhead lines are mostly within these disturbed and paved areas also, with the exception of the five poles located in the ditch between Belvedere Tennis Club courts and Old Rail Trail, as described above and shown in **Figure 4**. The impacts to wetlands and riparian areas where CRLF may move and/or migrate from the removal of these five poles is expected to be minimal and temporary. With implementation of **Mitigation Measures BIO-1 and 2**, the project would have a less-than-significant impact on native resident or migratory fish or wildlife species.

The removal of utility poles throughout the project area may affect migratory birds, including raptors that roost on utility poles and aerial lines. Birds may use poles and lines for resting and/or hunting, and removing these structures may decrease the amount of roosting habitat available for these species. However, there are safety concerns for larger birds, like raptors, that can be electrocuted when roosting on power poles. Extensive natural roosting and hunting habitat is available adjacent to the project area is preserved open space. Therefore, the removal of utility poles through project implementation is not expected to have an overall detrimental impact on available roosting habitat throughout the area for migratory birds. Activities associated with the removal of utility poles are also not expected to impact any trees within riparian areas in CDFW jurisdiction. However, migratory birds and raptors may be present within the project area throughout project implementation in riparian habitats throughout the drainages and ditch, and impacted through ground disturbing activities that may disturb nesting. Through implementation of **Mitigation Measures**, **BIO-8 to BIO-10**, these impacts will be less-than-significant.

Mitigation Measure BIO-8, Minimize Tree Trimming Within and Adjacent to the Ditch and Drainages: The Town or construction contractor will ensure that no trees in the riparian area will be removed during the removal of the six utility poles in and adjacent to the drainages and ditch. Furthermore, trimming of tree limbs will be minimized to the greatest extent possible so that trees are not significantly impacted through project implementation.

Mitigation Measure BIO-9, Avoid Construction Activity during Raptor Breeding Season, or Conduct Preconstruction Surveys and Observe Buffers around Raptor Nests throughout the Ditch and Drainages: The Town or construction contractor will ensure that construction activities will occur outside of the typical breeding season for raptors (September 16 to December 31). In the event that construction activities will occur between January 1 and September 15, preconstruction surveys of the riparian vegetation in and adjacent to the drainages where the utility poles would be removed will be conducted by a qualified biologist in accordance with established CDFW raptor survey protocols. If nesting raptors are detected, a qualified biologist will establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active raptor nests will be 500 feet for non-listed raptors, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting raptors. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until a qualified biologist has determined that young have fledged and are no longer reliant upon the nest or parental care for survival.

Mitigation Measure BIO-10, Avoid Construction Activity During Migratory Bird Breeding Season, or Conduct Preconstruction Surveys and Observe Buffers Around Migratory Bird Nests throughout the Drainages: The Town or construction contractor will ensure that construction activities will occur outside the typical breeding season (February 1 to September 1) for migratory birds. In the event that construction activities must occur during the typical breeding season for migratory birds, preconstruction surveys of the riparian vegetation in and adjacent to the drainages where the utility poles

will be removed will be conducted by a qualified biologist for nests of species covered under the Migratory Bird Treaty Act and Fish and Game Code sections 3503, 3503.5, and 3513. If nests are detected, a qualified biologist will establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.

e. Conflict with Local Policies or Ordinances Protecting Biological Resources. The Town of Tiburon 2020 General Plan includes an Open Space and Conservation Element, which includes goals and policies for protecting undeveloped land and Protected trees (e.g., large heritage trees, oak trees. The project would not result in any tree removal or land development. The proposed trenching, undergrounding, and the majority of utility pole and line removal activities would occur within rights-of-way on public roads. These areas are paved, highly disturbed, unnatural areas, and do not provide habitat for plant or animal species protected under local policies or ordinances.

Six of the utility poles to be removed are not located within roads or rights-of-way, and are located in or adjacent to waters of the US and State of California. Five of these poles are also located within the jurisdiction of the BCDC (**Figure 4**). However, because this project is utility-related and does not involve grading in jurisdictional waters or wetlands, it qualifies for a Regionwide BCDC permit, and will not conflict with any BCDC regulations. Therefore, the project would not conflict with local policies and ordinances protecting biological resources. The impact would be less than significant.

f. Conflict with an HCP. There are no existing or pending Habitat Conservation Plans or Natural Community Conservation Plans that include the project area. Therefore, there would be no impact.

V. Cultural Resources		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐
d.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

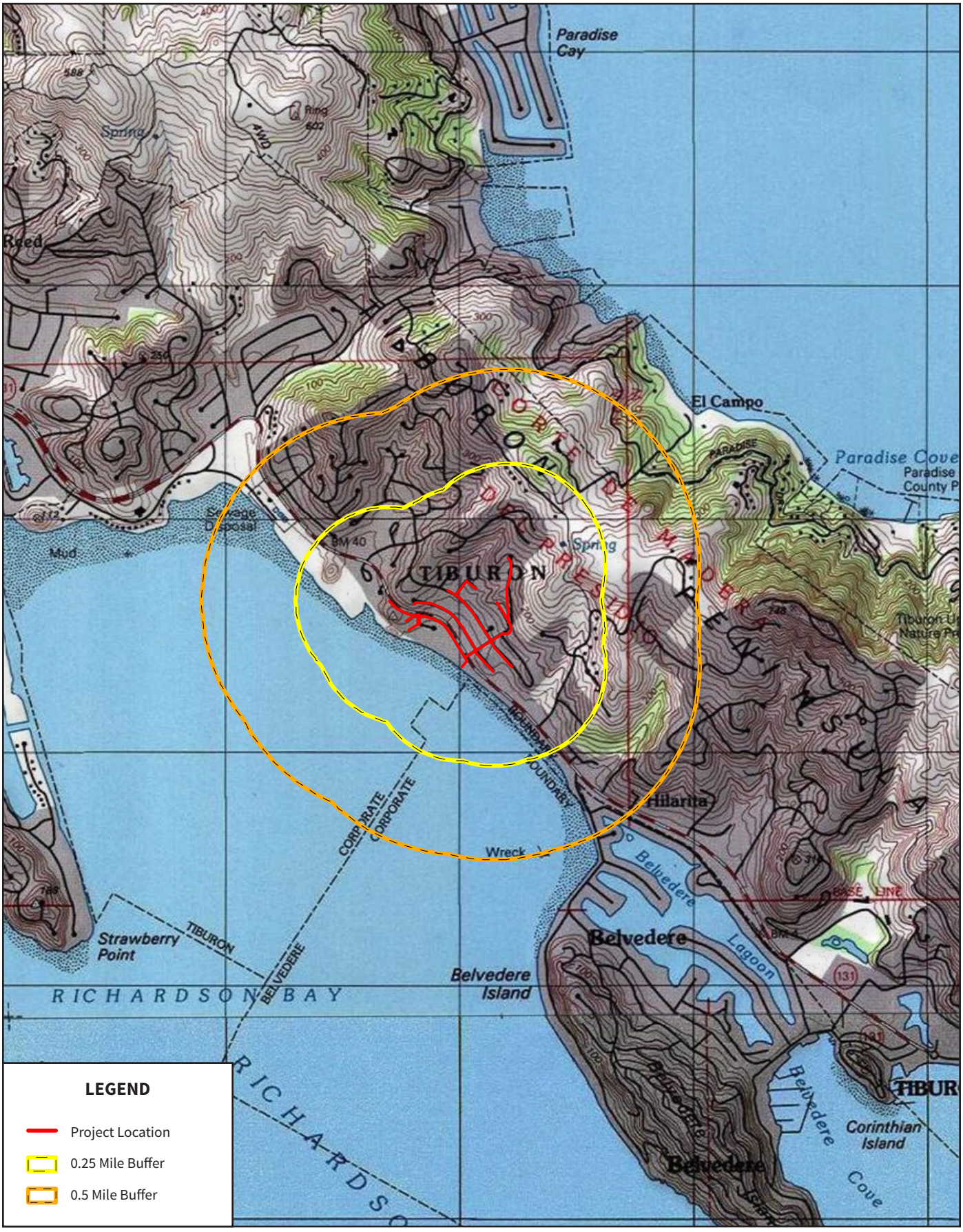
Existing Conditions

Records Search and Historic Map Review

On July 10, 2017, Robin Fies, a qualified archaeologist with GANDA,[1] conducted a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University, Rohnert Park (File No. 17-0024). The NWIC, which is one of nine Information Centers, is a repository of all cultural resources site records, previously conducted cultural resources investigations, and historic information concerning cultural resources for 18 counties, including Marin County. The purpose of this records search was to compile information pertaining to the locations of previously recorded cultural resources and prior cultural resources studies within a 0.50-mile radius of the Project Area Limits (PAL) (**Figure 5**) that inform the cultural resources sensitivity of the PAL. The following sources were consulted during the records search.

- NWIC base map: *San Quentin* (1993) USGS 7.5-minute series topographic quadrangle.
- Survey reports from previous cultural resources investigations and cultural resources site records to identify recorded archaeological sites and built environmental resources (i.e., buildings, structures, and objects) located within a 0.25-mile radius of the PAL and prehistoric archaeological sites located within a one-mile radius of the PAL.
- California Office of Historic Preservation (OHP) sources, including the California Inventory of Historic Resources (1976), California Archaeological Determinations of Eligibility (2012a), and the Historic Properties Directory (2012b), which combines cultural resources listed as California Points of Historical Interest and California Historical Landmarks and those that are listed in, or determined eligible for listing in, the National Register of Historic Places (NRHP) or the CRHR.

[1] Garcia and Associates (GANDA), Natural & Cultural Resource Consultants (GANDA), San Francisco, CA. GANDA is a subconsultant to Harris & Associates.



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Source: Marin County, 2017

Harris & Associates

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Figure 5
Cultural Resources Survey Area

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Following the records search, GANDA reviewed historic maps depicting features, such as roads, buildings, other structures and infrastructure, and waterways, in order to provide additional information regarding the potential for the presence of historic-period cultural resources within the PAL. The following sources were consulted during the historic map review.

- *Entrance to San Francisco Bay, California* (U.S. Coast Survey 1859)
- *Bays of San Francisco and San Pablo* (CA Board of State Commissioners for San Francisco Harbor 1874)
- *San Francisco Entrance, California* (U.S. Coast Survey 1884)
- *State Engineer's Map of Northern California [Sheet 7] (*CA Office of the State Engineer 1884)
- *Official Map of Marin County, California* (Dodge 1892)
- *Sonoma, Marin, Lake, and Napa Counties* (Blum 1896)
- *Coast Range Middle California Distribution of Earth Movement* (CA State Earthquake Investigation Commission 1908)
- *San Francisco Entrance, California* (U.S. Coast Survey 1926)
- *San Francisco, California,* 15-minute topographic quadrangle (USGS 1895, 1915, 1942, 1946, 1948)
- *San Quentin, California,* 7.5-minute topographic quadrangle (USGS 1947, 1959, 1968, and 1980)
- *Sanborn Maps for Tiburon, Marin County* (1891-1928)

The results of the records search undertaken at Sonoma State University are shown in **Table CR-1**.

Table CR-1. Previously Recorded Cultural Resources located within 0.50-mile of the PAL.

Primary No./ Trinomial	Resource Type/Name	Proximity to the PAL	CRHR Eligibility Status
P-21-002859	Historic-era Building/Belvedere Tennis Club	Within PAL	Ineligible (Status Code 6Y)
P-21-002655	Prehistoric- Occupation/Hilary Drive Site	0.10 mile	Not Formally Evaluated
P-21-002553	Prehistoric- Shellmound	0.10 mile	Appears Eligible (Status Code 3)
P-21-002654	Prehistoric- Shell Deposit/Del Mar School Redeposit	0.13 mile	Not Formally Evaluated
P-21-000064/ CA-MRN-33	Prehistoric- Shellmound/Nelson Site 33	0.21 mile	Not Formally Evaluated
P-21-000066/ CA-MRN-35	Prehistoric- Shellmound/Nelson Site 35	0.24 mile	Appears Eligible (Status Code 3S)
P-21-000063/ CA-MRN-32	Prehistoric- Shellmound	0.28 mile	Not Formally Evaluated
P-21-000065/ CA-MRN-34	Prehistoric- Shellmound/Nelson Site 34	0.33 mile	Not Formally Evaluated

The review of historic maps has shown that the earliest map available for the PAL dates to 1859, and that the PAL was located on undeveloped land on a hillside along the shoreline of Richardson Bay. A map dating to 1884 depicts the newly-completed Northwestern Pacific Railroad (NWPRR) along the southern shoreline of the Tiburon Peninsula. The NWPRR alignment/corridor is mapped outside the PAL. Tiburon Boulevard (State Route 131), a portion of which falls within the PAL, was built running parallel to the north side of the railroad tracks and appears in maps as early as 1895. Subsequent maps show virtually no development until 1956, after which the entire PAL appears to have developed rapidly with residential homes already lining each street. Sanborn historic maps dating from 1891 to 1928 were also examined, but they did not depict the PAL.

Buried Site Sensitivity Assessment

In order to gauge the potential for the presence of buried prehistoric archaeological deposits in the PAL, GANDA conducted a buried site sensitivity assessment. This assessment involved an analysis of geologic, topographic, and historic landscape maps, soil surveys, archaeological records, and established prehistoric settlement models. This information aids in understanding Holocene-age landforms (e.g., river terraces, valleys, and plains) and the potential for archaeological deposits buried within those landforms. The analysis enables archaeologists to better understand the age of landforms, how landforms developed and changed over time, post-depositional processes associated with archaeological deposits, and the potential for preservation of archaeological deposits. The modern condition of landforms is also considered, including the extent of horizontal and vertical artificial cutting and filling conducted for roads, infrastructure, and the built environment. Collectively, the information gleaned from the buried site sensitivity analysis is used to determine the potential for extant buried prehistoric archaeological deposits within a study area, and the risk for encountering such deposits during construction activities. Specific factors analyzed to assess the presence of buried archaeological resources within the current PAL include:

- A review of previously recorded prehistoric archaeological sites within the vicinity of the PAL, including composition of these archaeological sites, their depth below surface, and their landscape context;
- A review of geologic maps of Tiburon, California with the intent of identifying Holocene-age landscapes (Appendix A: Figure 5), as well as a review of the distance of the PAL to nearby natural freshwater drainages; and
- A review of historic and modern landscape modifications to inform the level of previous disturbances (i.e., cutting and filling).

The geoarchaeological factors analyzed for the buried site sensitivity analysis confirm that at least portions of the project are in an area that is highly sensitive for the presence of buried prehistoric archaeological deposits (**Table 2**). Given the level of surface disturbance in the PAL from the construction of roads and residential neighborhoods, the integrity of prehistoric deposits in the vicinity has been greatly compromised (Newland 2013b). Despite this loss of integrity, there remains a strong potential to encounter intact buried archaeological deposits below the existing surface in the central and western portions of the PAL. Since the projects would include excavations ranging from 4.6 to 7.6 feet below surface, the project would expose soils and sediments that have the potential to contain intact prehistoric archaeological deposits.

Table CR-2. Determining Factors for Buried Site Sensitivity

Factor	Presence
Depositional environment with Holocene-age sediments	Yes; in the central and western portions of the PAL
Landform stability and preservation	Extensive surface and near-surface disturbance throughout the PAL
Freshwater creeks or rivers within 250 feet of PAL	Yes
Recorded buried archaeological sites within 0.5 mile of PAL	Seven prehistoric sites
Common landform for prehistoric settlements	Yes (edge of Richardson Bay and freshwater drainage)

Field Survey

On July 17, 2017, archaeologist Kruger Frank, B.A., with GANDA conducted an archaeological pedestrian survey, based on information gathered for the PAL. The PAL was surveyed intensively, with focused coverage in all unpaved areas where exposed soils were present and observable at the surface. Transects spaced between one to three meters apart were used to survey 10 feet along both sides of the following roads in the PAL: Tiburon Boulevard (Highway 131), Hawthorne Drive, Hilary Drive, Rock Hill Road, Delmar Drive, Mara Vista Court, and Palmer Court. The survey area was a total of 3.44 acres, and the PAL was surveyed at 100 percent coverage.

Results of the pedestrian survey showed that the PAL consists of a combination of hilly and flat urban developed land in the residential area of Tiburon, where at least 95 percent of the surface of the PAL is covered with asphalt or concrete. The remaining surfaces consist of landscaped medians and yards. These surfaces were intensively inspected for any observable signs of archaeological materials. Rodent back-dirt piles were specifically targeted for their exposure of subsurface soils. Approximately 85 percent of the landscaped surfaces were covered in vegetation or landscape materials (mulch) without any observable soils. Nearly the entire area was void of native trees and shrubs. No vertical profiles, such as creek banks or construction walls, were available for inspection. No evidence of either prehistoric or historic-era archaeological resources or materials were identified on the surface within the PAL. Some modern marine shell was noted along Hawthorne Drive but was not associated with prehistoric midden and was likely deposited by birds.

As a result of this investigation, no archaeological resources were identified within the PAL. Based on the results of the background research and the geoarchaeological analysis of buried site sensitivity for the PAL, there is a high sensitivity for the presence of near surface and buried prehistoric archaeological sites within the PAL. This assessment is based on the proximity of numerous previously recorded prehistoric archaeological sites (including five within 0.25 mile and several more within 0.50 mile), the proximity of the PAL to Richardson Bay, the ditch and drainages within the PAL, and the geomorphology of the PAL which is underlain by Holocene-age alluvium.

Discussion

a. Adverse Change in Significance of Historical Resource. According to CEQA, a historical resource is a resource that is:

- listed in or eligible for listing in the California Register of Historical Resources (CRHR);

- listed in a local register of historical resources; or
- determined to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

The project would result in the installation of underground utilities and the removal of existing utility poles within the public right-of-way and on land that has been highly disturbed, within the immediate vicinity of the Belvedere Tennis Club and the Old Rail Trail berm. No buildings or structures would be affected by the project. As such, implementation of the project would result in less-than-significant impacts on known historical resources. However, implementation of the project may adversely impact unknown historical resources within the project area. Implementation of **Mitigation Measure CR-1** would minimize potential impacts to unknown historic resources to a less-than-significant level.

Mitigation Measure CR-1: Stop Work in the Event of Unexpected Occurrence of Cultural Resources during Construction. If cultural resources are identified during project construction, the construction crews will stop all work within 100 feet of the discovery until a qualified archaeologist assesses the previously unrecorded discovery and provides recommendations. Resources may include subsurface historic features such as artifact-filled privies, wells, and refuse pits, and artifact deposits, along with concentrations of adobe, stone, or concrete walls or foundations, and concentrations of ceramic, glass, or metal materials. Native American archaeological materials may include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (such as mortars and pestles).

b, c, d. Adverse Change in Significance of an Archaeological Resource; Destroy a Unique Paleontological Resource; Disturb Human Remains. Although a records search of known archaeological sites within the PAL did not reveal any previously discovered sites, the project area is located within an area that is sensitive for cultural resources. Therefore, ground disturbing activities proposed through project implementation could reveal previously undiscovered resources of significance. Although it is unlikely resources would be discovered because the project area has been previously disturbed, there is a possibility of the unanticipated and accidental discovery of archaeological and/or paleontological resources and/or human remains during ground-disturbing project-related activities. This could result in a potentially significant impact. Through implementation of **Mitigation Measures CR-1 and CR-2,** these potential impacts to unknown resources would be reduced to a less-than-significant level.

Mitigation Measure CR-1: **Stop Work in the Event of Unexpected Occurrence of Cultural Resources during Construction.**

Mitigation Measure CR-2: Stop Work in the Event of Unexpected Occurrence of Human Remains during Construction. If human remains and associated/or unassociated funerary objects are discovered during soil-disturbing activities, construction crews will stop work and immediately notify the Marin County Coroner and qualified archeologist, in accordance with applicable State laws. In the event the Coroner determines that the human remains are Native American, the Town will notify NAHC according to the requirements in PRC Section 5097.98. NAHC will appoint a Most Likely Descendent (MLD). A qualified archaeologist, Town, and MLD will make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]. The agreement

will take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters.

VI. Geology and Soils		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	1. 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 Special Publication 42.	☐	☐	☒	☐
	2. Strong seismic ground shaking?	☐	☐	☐	☒
	3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
	4. Landslides?	☐	☐	☒	☐
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite 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 risks to life or property?	☐	☐	☒	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Existing Conditions

Geologic Setting

The Town of Tiburon is located within the San Francisco Bay Area, a seismically active region. The Town is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no active faults that run through the Town of Tiburon. Faults are caused by movement of the earth's crust, which forces bedrock units located on opposite sides of a fault line to slide past each other. These lines are not discretely defined, so movement of the ground surface can occur throughout a fairly wide area that overlies a fault zone. An active fault is defined as a fault that has a historic seismic record (activity in the last 100 years) or displaces Holocene (11,000 years and younger) deposits. Faults that exhibit signs of

geologically recent movement (active within the past 11,000 years) are considered the most likely to experience movement in the near future. Therefore, active faults are generally thought to have the greatest fault rupture potential. Most agencies, however, will consider potentially active faults (active within the past two million years) as being capable of generating future earthquakes. Faults classified as inactive are not considered to present a significant fault rupture hazard or seismic source. The San Andreas Fault, considered dangerous to areas that lay within 50 to 100 miles of its trace, is approximately 8 miles southwest of Town. In addition, the Hayward Fault, part of the San Andreas Fault System, is located approximately 8 miles northeast of the Town. According to the U.S. Geological Survey (Working Group on California Earthquake Probabilities 2003), there is a 62 percent chance of at least a magnitude 6.7 (or greater) earthquake in the San Francisco Bay region between 2003 and 2032, which would include the project area.

According to the Soil Survey of Marin County, California (U.S. Department of Agriculture 2012), the project is predominately underlain with Xerorthents-Urban land complex, 0 to 9 percent slopes. In addition, the area around Rock Hill Road and Delmar Drive are underlain with Los Osos-Bonnydoon complex, 30-50 percent slope. Finally, the area that includes Palmer Court and the northwestern area of Hawthorne Drive is underlain with Los-Osos-Urban Land Bonnydoon Complex.

The Xerorthents-Urban Land Complex soil type is associated with bay land areas covered with fill. This unit is 45 percent Xerorthents and 40 percent Urban land. This area also includes Hydraquents, saline, and Ballard, Blucher, Cole, Novato, and Reyes soils that have not been disturbed. These soils are generally located in areas that have not been filled, including yards and vacant lots. Runoff is rapid throughout this soil type; however, the hazard of water erosion is low. This soil unit is suited for urban development. These soils are considered to have moderate expansive properties, referring to their ability to shrink and swell with fluctuating water quantities within the soil complex.

The Los Osos-Urban Land and Los Osos-Bonnydoon Complex soils are comprised of loam, gravelly loam and clay loam soils. These soils are well drained and are derived from sandstone and shale. They exhibit high levels of soil erosion and siltation, and have slow permeability. Slippage can also be high when these areas are wet.

Liquefaction is a phenomenon where near surface soils lose cohesion and are converted to a fluid state as a result of severe vibration. Structures built in and on soils respond differently to liquefaction. Underground structures that are less dense than the liquefied soil, such as utility mains, tend to rise to the surface; and structures more dense tend to subside. Loose, granular soils are most susceptible to these effects, while more stable silty clay and clay materials are generally somewhat less affected. In general, liquefaction potential varies according to soil type, with recent, unconsolidated alluvial soils having the highest potential. Within the project area, the Town of Tiburon General Plan (Town of Tiburon, Safety Element, 2003) has identified the area under the Belvedere Tennis Club and along the Old Rail Trail, as well as the extent of Tiburon Boulevard throughout the project area, and portions of Hawthorne Drive, as being at moderate susceptibility to liquefaction. The Town of Tiburon General Plan has identified the project area southwest of Hawthorne Drive as including surficial deposits. These are loose and soft sediments and debris deposited within the last 10,000 years. They are typically susceptible to seismic shaking, liquefaction and differential settlement.

The project area bordering Richardson Bay is relatively flat in nature, and is not subject to landslides. Throughout the residential portion of the project area, slopes are intermittently steep, particularly along Rock Hill Road. The Town of Tiburon General Plan has identified the area along the upper portion of Rock Hill Road as susceptible to landslides. Although topography is generally steep in nature throughout

this area, the project utility alignments are located within paved public street right-of-ways. There are no undeveloped areas located in steep portions of the project area that are proposed for project activities. Therefore, the project area is not subject to landslide activity.

Discussion

a. Expose People or Structures to Geologic- or Soil-Related Adverse Effects Involving Rupture of Known Earthquake Fault, Strong Seismic Groundshaking, Seismic-related Ground Failure, or Landslides. The project does not involve the construction of any permanent structures. Therefore, the project would not expose people or structures to potentially substantial adverse effects including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic groundshaking, seismic-related ground failure, or landslides.

1. Rupture of Known Earthquake Fault. The project area is not within any earthquake fault zones designated by the state under the Alquist-Priolo Act, nor is it traversed by any faults recognized by the Uniform Building Code as active but not zoned by the State of California. Additionally, the project involves undergrounding utilities, and the removal of aboveground utility poles and wires. Accordingly, the risk of surface fault rupture at the site is considered low, and the potential for impacts related to surface fault rupture is less-than-significant. No mitigation is required. Removal of aboveground structures from the seismically active area is considered a beneficial impact as risks due to aboveground structural failure will be removed.

2, 3. Strong Seismic Groundshaking; Seismic-Related Ground Failure. The project site is likely to experience strong groundshaking during the lifespan of the project, and the potential for liquefaction at the portion of the site outside of the right-of-way is considered moderate. The principal concern related to human exposure to groundshaking or liquefaction is that both of these processes can result in structural damage. The project would not result in new aboveground structures within the project area, and existing aboveground utility poles and associated wires would be removed through project implementation. Therefore, there is a very low risk that persons would be onsite, within the project area, or checking or maintaining the underground utilities during a seismic event. Because the project would result in the removal of aboveground structures and utility lines, where there is a much greater risk potential for injury through broken utility poles and/or downed wires, this impact is considered beneficial. No mitigation would be required.

4. Landslides. Adjacent to the Belvedere Tennis Club, where five utility poles and associated wiring would be removed, the project area is unpaved with nearly no slope at the ground surface. The majority of the project would involve undergrounding of the utility lines within public roadways and parking lots. As the project area extends from the Belvedere Tennis Club up along Rock Hill Road, slopes dramatically increase. However, the area for undergrounding utilities is paved in its entirety. Therefore, hazards associated with landslides are not expected. Additionally, the creation of cut slopes and fill embankments is not anticipated during project construction, and therefore the potential for safety risks related to instability of cut and/or fill slopes during or following construction would be less-than-significant. No mitigation would be required.

b. Result in Soil Erosion or Loss of Topsoil. The majority of the project site has been previously graded and/or paved. Construction activities such as clearing, grading, and site preparation, which could contribute to the loss of topsoil, would be minimal because much of the project work would

occur within public roadways. However, open trenching activities may have the potential to contribute to accelerated erosion, which could increase sediment entering several storm drains throughout the project area, and potentially impair surface and/or groundwater quality in the region that could drain into Richardson Bay. In order to comply with requirements of applicable permits under the NPDES program, the general contractor(s) selected for project implementation would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would include best management practices (BMPs) and measures to protect water quality. The SWPPP would include measures that would ensure that impacts related to loss of topsoil and potential for acceleration erosion are less-than-significant. No mitigation would be required.

c. Be Located on Unstable Geologic Units or Soil. The majority of the project area consists of paved public roadways that vary in slope, increasing in grade along Rock Hill Road. The unpaved portion of the project area, adjacent to the Belvedere Tennis Club, is flat with almost no slope. Earthwork throughout project construction would not create cut or fill slopes that could become unstable. Therefore, impacts related to the potential for project construction to cause or increase soil instability would be less-than-significant. There are no permanent project features that would affect the stability of soils within the project area. Therefore, no mitigation would be required.

d. Be Located on Expansive Soil. Expansive soils shrink or swell depending upon water content, and can cause damage to structures within or on these soils. Soils with a high clay content are more susceptible to swelling than sand or gravel soils. The soils that underlay the project area are considered moderate in their shrink swell potential (U.S. Department of Agriculture 2012). Any potential effects that may occur from expansive soils would be minimized through compliance with the 2013 California Building Code requirements and the Town of Tiburon building codes that would be implemented throughout the design and construction of the proposed project. In accordance with these regulations, the project features will be designed and constructed to withstand the maximum probability earthquake that may affect the project area, in addition to any associated geologic or soil constraints or hazards that occur throughout the project area. Furthermore, as described in the Project Description, a geotechnical report is being prepared for the project to address Civil and Structural design considerations, including landslide potential throughout the project area, soil infiltration rates, CBC seismic parameters, and seismic soil bearing pressures; and the recommended measures will be implemented. Therefore, this impact would be less than significant, and no mitigation would be required.

e. Be Located on Soils Incapable of Supporting Alternative Wastewater Disposal Systems. The project would not include the use of alternative wastewater disposal systems or septic tanks. Therefore, there would be no impact.

VII. Greenhouse Gas Emissions		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
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?	☐	☐	☒	☐

Existing Conditions

The section briefly describes the environmental and regulatory setting for greenhouse gas (GHG) emissions and climate change.

Greenhouse Gasses and Climate Change

The phenomenon known as the greenhouse effect keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life forms. Present in the Earth's lower atmosphere, greenhouse gases play a critical role in maintaining the Earth's temperature by trapping some of the long-wave infrared radiation emitted from the Earth's surface that would otherwise escape to space. According to California's Global Warming Solutions Act (AB 32) and the State CEQA Guidelines (Section 15364.5), GHGs encompass the following gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs).

Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and amplifying the warming of the Earth (Center for Climate and Energy Solutions 2011). Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the Earth's lower atmosphere, inducing large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the Earth system that are collectively referred to as climate change.

Regulations

There are currently no federal laws specifically related to climate change, although regulation under the Clean Air Act is under development.

California has adopted several policies and regulations for the purpose of reducing GHG emissions. The most stringent of these is AB 32, which requires that statewide GHG emissions be reduced to 1990 levels by 2020. The ARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. Some reductions will need to come in the form of changes pertaining to vehicle emissions and mileage standards. Some will come from changes pertaining to sources of electricity and increased energy efficiency at existing facilities. The remainder will need to come from plans, policies, or regulations that will require new facilities to have lower carbon intensities than they currently have under existing conditions.

Discussion

a. Generate Greenhouse Gas Emissions. The use of heavy equipment to construct the proposed project would result in the temporary emission of greenhouse gases (GHG). GHG emissions from project construction were estimated using CalEEMod and the construction assumptions detailed in the project description. Estimated project emissions are provided in **Table GHG-1**.

Table GHG-1 Estimated Maximum Annual GHG Emissions from Project Construction

Construction Phase	**CO_2e (metric tons)**
Installation of Vaults	20
Installation of Conduits	68
Existing Pole Removal	18
Total Emissions	**106**
*Emission quantities are rounded to the nearest whole number. Exact values are provided in **Appendix D** (CalEEMod, version 2013.2.2)	

As shown in **Table GHG-1**, the proposed project would result in total one-time emissions of approximately 106 metric tons of carbon dioxide equivalent. Due to the temporary nature of construction GHG emissions, neither the BAAQMD CEQA Guidelines nor the Town Climate Action Plan include a screening level for construction GHG emissions. Accordingly, GHG emissions from construction are considered to make a less than cumulatively considerable contribution to the cumulative impact on global climate change. In addition, the proposed project will replace the existing utility infrastructure and does not include any new land uses or project components that would result in new ongoing operational emissions. Therefore, the proposed project would not conflict with any goals or recommendations set forth in the Town's Climate Action Plan (2011), and would not result in GHG emissions that would result in a significant impact on the environment. This impact is considered less-than-significant, and no mitigation would be required.

b. Potential conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As discussed above, emissions of GHGs as a result of the project would be minimal and would cease following the completion of construction when the utilities are undergrounded and aboveground infrastructure is removed. As such, the project would not conflict with or hinder implementation of the Town's Climate Action Plan (2011). Therefore, this impact would be less-than-significant.

VIII. Hazards and Hazardous Materials		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
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 involve handling 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 it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Existing Conditions

A government records search conducted in June 2017 revealed that no portion of the project area is listed on the Cortese List, a compilation of information from various sources listing potential and confirmed hazardous waste and hazardous materials sites in California.[2]

No public airports, public use airports, or private airstrips are located within the Town. The nearest airport facility, Gnoss Field, is located approximately 20 miles north of Tiburon. In addition, the Smith Ranch airstrip, a private facility, is located approximately 12 miles north of Tiburon.

The project area is served by the Tiburon Fire Protection District, and is not located in a designated Very High Fire Hazard Severity Zone or a wildland area that may contain substantial forest fire risks and hazards, as determined by the California Department of Forestry (California Department of Forestry 2008). The project area has also not been mapped in the Tiburon General Plan as susceptible to wildfire (Town of Tiburon, Safety Element, 2005). However, the undergrounding of utilities under the uppermost length of Rock Hill Road will be located adjacent to the Middle Ridge Public Open Space, which has been mapped as susceptible to wildfire.

Discussion

a, b. Create a Hazard through Transport, Use, or Disposal of Hazardous Materials or through Upset and Accident Conditions. Project construction is not expected to create a hazard to the public through the routine use of hazardous materials, nor through accidental release of hazardous materials. Hazardous materials associated with project construction may include fuel, oils, grease, lubricants, and other petroleum-based products contained in construction vehicles, as well as materials used during the construction process, such as solvents and adhesives. There is potential for inadvertent or accidental spill or leak to occur during construction activities. In accordance with the contractor's specifications, these construction-related hazardous materials would be transported, stored, and handled in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the U.S. Department of Transportation, the Resource Conservation and Recovery Act of 1976, and the Marin County Health and Human Services Department. Because compliance with existing regulations is mandatory, the project is not expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction activities.

Operation activities would be similar to existing conditions, and the project would not create any new hazards through the transport, use, or disposal of hazardous materials, or through upset and accident conditions. Therefore, impacts would be less-than-significant. No mitigation would be required.

[2] The Hazardous Waste and Substances Sites (Cortese) List is a planning resource used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop, at least annually, an updated Cortese List. The Department of Toxic Substance Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies, including the State Water Resources Control Board and the California Integrated Waste Management Board, are required to provide additional hazardous material release information for the Cortese List.

c. Emit Hazardous Emissions or Materials within 0.25 mile of Schools. Saint Hilary School is bordered by both Hilary Drive and Rock Hill Road, which would both have aboveground utilities removed and new utilities trenched underground within the roadways through project implementation. As described above, there is potential for accidental leaks or spills of construction-related fuels, oils, grease and other materials in areas where students, faculty, and other persons are present at the school. As discussed above, all hazardous materials would be transported, stored, handled, and, if necessary, remediated in a manner consistent with relevant regulations and guidelines, and thus would not be expected to create a hazard to the public. Therefore, impacts are anticipated to be less-than-significant. No additional mitigation would be required.

d. Project Located on Listed Site. There are no identified hazardous materials or wastes present on the project site, based on the aforementioned government records search conducted. Therefore, there would be no impact.

e, f. Within Vicinity of Public or Private Airstrip. The project site is not located within two miles of a public airport or private airstrip. The closest airport, Gnoss Field, is located approximately 20 miles north of the Town. Smith Ranch airstrip, a private facility, is located approximately 12 miles north of Tiburon. Consequently, the project would not conflict with an airport land use plan or operation of nearby airports, or pose a related safety hazard to people living or working in the project area. There would be no impact.

g. Interfere with Emergency Response or Evacuation Plan. Project implementation would not permanently alter the roadways within the project area in any way that would impair implementation of an adopted emergency response plan or emergency evacuation plan**.** Throughout project construction, temporary lane or road closures and slow-moving construction vehicles could delay or obstruct the movement of emergency vehicles along local roadways. In order to minimize potential impacts to emergency vehicle response times, a traffic control plan would be developed as part of the project, and would include the notification of emergency service providers of construction activities to ensure emergency access at all times. Therefore, through implementation of the traffic control plan, impacts would be less-than-significant.

h. Expose People or Structures to Risk of Wildland Fires. The project area is located within a primarily residential area of the Town, bordered by the Belvedere Tennis Club and Old Rail Trail. Although there are open lands within the Middle Ridge Public Open Space, adjacent to the northeastern most portion of the project area along Rock Hill Road, the CAL FIRE Hazard Severity Zone Map designates the project area as being in a "Non-Very High Fire Hazard Severity Zone" (California Department of Forestry 2008). Furthermore, the project would not involve the construction of structures that would expose people to the risk of wildland fires. Therefore, there would be no impact.

IX. Hydrology and Water Quality		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f.	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j.	Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Existing Conditions

The proposed project is located on the southeastern portion of the Tiburon Peninsula in Marin County. The peninsula ranges in elevation from sea level to approximately 650 feet. Water drains from the peninsula through a number of small watersheds on the northern and southern sides of the peninsula. Richardson Bay, which lays adjacent to the Belvedere Tennis Club and Old Rail Trail portion of the project area, lays to the west and southwest of the peninsula. Raccoon Strait is located southeast of the peninsula, separating the peninsula from Angel Island. Belvedere Lagoon and Cove are located south of the peninsula, and the San Francisco Bay proper is located east of the peninsula.

Similar to much of the central coast of California, the Tiburon Peninsula is located within a Mediterranean type climate. This area has cool, wet winters and warm dry summers, with the majority of rainfall occurring between the months of October and April. The mean annual precipitation of the Tiburon region ranges from 23 to 50 inches, varying from the lowest point, the Town of Tiburon, where the project area is located, to the highest point, Mount Tamalpais.

The project area is served by the Marin Municipal Water District. Stormwater runoff throughout the project area is conveyed through the Town's storm drain network, and ultimately discharged into Richardson Bay. There are two culverts that empty into Richardson Bay within the project area. The first is a box culvert located at approximately the halfway point of the Belvedere Tennis Club. This 36 inch culvert drains from the tennis club directly into Richardson Bay (**Figure 2 and Figure 3, Photos 4 and 6**). The second 12 inch culvert is located at the end of the drainage that is located between the Belvedere Tennis Club and the residences along Palmer Court (**Figure 2, Photos 7 and 8**). This drainage continues into the adjacent residential development under Tiburon Boulevard.

Within the Town, lands that flood are not common. The areas that are prone to flooding are largely limited to those areas that border the San Francisco or Richardson Bays. The Federal Emergency Management Agency (FEMA) has mapped two flood zone areas in the Tiburon Planning Area; Zone A, with a flooding probability of once every 100 years and Zone B, with a flooding probability of between once every 100 and 500 years (Town of Tiburon, Safety Element, 2005). Within the project area, the lands adjacent to the Old Rail Trail and residences located on Palmer Court, adjacent to the Belvedere Tennis club and closest to Richardson Bay, are mapped within Zone A. The Belvedere Tennis Club and residences located between Tiburon Boulevard and Hawthorne Drive, within the project area, closest to the tennis club, have been mapped in Zone B.

Discussion

a, f. Violate Water Quality Standards or Waste Discharge Requirements; Degrade Water Quality. Project construction is not expected to contribute to reduced water quality in local water bodies. Although construction-related runoff could contain soil and other pollutants such as fuel, oils, grease, lubricants, solvents, and other materials associated with construction equipment and activities, any potential impacts that could occur as a result of the release of the above-mentioned materials through project construction would be minimized and contained through implementation of BMPs and measures identified in the project's SWPPP. Additionally, the project would include erosion control measures such as protecting all drainage inlets with gravel bags, or similar, and hydroseeding all sloped areas. Therefore, this impact would be less-than-significant. No mitigation would be required.

b. Groundwater. Groundwater conditions would not be adversely altered by construction of the project. The proposed project would not use groundwater or require any permanent water supply. Thus, the impact would be less-than-significant. No mitigation would be required.

c, d, e. Alterations in Drainage Contributing to Increased Erosion, Siltation, Flooding, or Excess Runoff. The project would not result in changes to drainage patterns within the project area. No streams or rivers would be altered. In addition, project implementation would not result in the creation of new impervious surfaces, or increase the amount of surface runoff within the project area. Therefore, impacts would be less-than-significant. No mitigation would be required.

g, h. Housing or Structures in 100-year Flood Hazard Area or Floodplain. Although portions of the project area, including the Belvedere Tennis Club, the Old Rail Trail, and adjacent residential development, are located within both the 100- and 500-year flood zones, project implementation would not result in the construction of additional permanent structures within these areas. All permanent features would be located underground, and existing aboveground utility features would be removed from the project area. Therefore, no project features would impede or redirect water flows. This impact is considered less-than-significant.

i. Failure of a levee or dam. The project area is bordered to the southwest by the Old Rail Trail, which is located on top of an old railroad berm that divides Richardson Bay from the Belvedere Tennis Club, pump station, and adjacent residential development on Palmer Court. Although aboveground utility poles would be removed adjacent to the berm, the structural integrity of the berm would not be affected by project implementation in any way. Construction vehicles would utilize the roadway atop the berm throughout project implementation, and access the adjacent drainage throughout the demolition portion of the project. However, following these activities, the berm that supports the Old Rail Trail would remain unchanged. No impacts are expected, and no mitigation is required.

j. Seiche, Tsunami, or Mudflow. As discussed above, the project area includes the Old Rail Trail, which is located on top of a berm, dividing the project area features of the Belvedere Tennis Club, Pump station and adjacent residences along Palmer Court from Richardson Bay. Although these areas are located in close proximity to the Bay, where a seiche, tsunami or mudflows may occur, project implementation would not affect any physical features within the project area that would change the potential risks of these disasters occurring, or the potential impacts that they would have within the project area, or on adjacent lands. The removal of aboveground utilities would be a benefit in the event of a natural disaster in that utility poles and wires would be located underground following project implementation, and therefore would not increase debris load in the event of a natural disaster. Therefore, no impacts are expected, and no mitigation is required.

X. Land Use and Planning		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Existing Conditions

The majority of the project area is located within the public road right-of-ways along Tiburon Boulevard, Hawthorne Drive, Hilary Drive, Hilary Court, Delmar Drive, Rock Hill Road and Palmer Court. The additional areas impacted through project implementation include the ditch located between the Belvedere Tennis Club and the Old Rail Trail, and the drainage located between Belvedere Tennis Club and Palmer Court. If the alignment through the Belvedere Tennis Club parking lot is implemented, the parking lot would also be impacted through project construction activities. Land uses within the project area include the trail and tennis club, single family residential development, sewer pump station, Saint Hilary Church and School, and the Community Congregational Church.

Project implementation would include the removal of the aboveground utility poles and wires throughout the residential development, and would replace these features with undergrounded utilities. In addition, five utility poles and the associated wiring would be removed from the ditch and drainage that are positioned between the Old Rail Trail and Belvedere Tennis Club, and adjacent residences on Palmer Court. These utilities would be replaced with undergrounded utilities along Tiburon Boulevard, or within the Belvedere Tennis Club parking lot, meeting Tiburon Boulevard and then joining the utility alignments throughout the remainder of the project area public roadways.

Land uses surrounding the project area include Richardson Bay and open water to the west, with the remainder of the project area surrounded by single family residential development and the Middle Ridge Public Open Space, located to the northeast of Rock Hill Road.

Discussion

a. Physically Divide a Community. Implementation of the project would replace aboveground utilities with undergrounded utilities throughout the project area, and would demolish and remove existing aboveground utility poles and wires. The residential developments adjacent to the project area are currently supported by undergrounded utilities, and no remaining poles or wires are visible, outside of Tiburon Boulevard. Therefore, implementation of the project would further enhance the contiguous nature of the Town with a more unified appearance. Furthermore, project implementation would not result in changes to local roadways, and no changes to the physical environment within the community would occur. Therefore, no impacts are expected, and no mitigation is required.

b. Conflict with Applicable Land Use Plan, Policy, or Regulation. Project implementation would result in a complimentary visual effect on the residential development within the project area with those neighborhoods that surround the project area, where aboveground utilities have already been replaced with undergrounded utilities. Implementation of the project would not change land uses throughout the project area, and would not create a conflict or need for changes in current Town land use or zoning designations. Because the project would not conflict with an applicable land use plan, policy, or regulation, there would be no impact.

c. Conflict with Applicable Habitat Conservation Plan or Natural Community Conservation Plan. No habitat conservation plans (HCP) or natural community conservation plans (NCCP) are applicable to the project site. Therefore, the project would not conflict with an HCP or NCCP, and there would be no impact.

XI. Mineral Resources		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
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?	☐	☐	☐	☒

Existing Conditions

The principal legislation addressing mineral resources in California is the Surface Mining and Reclamation Act of 1975 (SMARA) (PRC Sections 2710–2719), which was enacted in response to land use conflicts between urban growth and essential mineral production. In accordance with SMARA, the California Geological Survey (CGS), formerly the California Division of Mines and Geology, classified lands within the San Francisco-Monterey Bay region into Mineral Resource Zones (MRZs) as follows.

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- **MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment into any other MRZ.

Ring Mountain is considered by the State as a Scientific Resource Zone, and is the only mineral resource located near the Town. However, this area is located northeast of the project area, and is preserved as open space by the Marin County Open Space District, and would not be affected by the project.

Discussion

a, b. Loss of Availability of Known Mineral Resources or Locally Important Mineral Resource Recovery Site. The project involves demolishing and removing existing aboveground utilities, and replacing them with undergrounded utilities throughout the project area. The project would require open trenching within public roadways, and potentially the Belvedere Tennis Club parking lot, in order to install the undergrounded utilities. The project would also require the demolishing of five utility poles and removal of associated wires within the ditch and drainage that border the Belvedere Tennis Club, Old Rail Trail and residential development on Palmer Court. Although these actions would require minor excavation within the public roadways, and within the ditch and drainage, they would not involve any major excavation. Because the project area does not contain known mineral deposits of regional or statewide significance, or serve as a locally important mineral resource recovery site, implementation of the proposed project would have no impact on mineral resources.

XII. Noise		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Existing Conditions

The majority of the project area is located within public road right-of-ways within the Town. The remaining project features that would be impacted by project implementation are the ditch and drainage that divide the Belvedere Tennis Club from the Old Rail Trail, adjacent to Richardson Bay, and residential development on Palmer Court. Land uses within the project area are mainly single-family residences, in addition to the Belvedere Tennis Club, pump station, Old Rail Trail, Saint Hilary Church and School, and the Community Congregational Church.

The existing noise environment in the project vicinity results from traffic on Tiburon Boulevard, which crosses the project area north to south, and general residential traffic moving throughout the neighborhood, and to and from the tennis club. There is not a parking lot within the project area to support use of the Old Rail Trail, and therefore noise associated with the trail is limited to pedestrian and bicycle traffic.

Tiburon General Plan Noise Element

The Tiburon General Plan Noise Element provides policies, programs and standards to alleviate the problems associated with excessive noise. The Town's Noise Ordinance (Section 25-1 of the Tiburon Municipal Code) does not include any limitations relevant to construction activities. However, Section 13-6 of the Tiburon Municipal Code limits construction operations to the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday and 9:30 a.m. to 4:00 p.m. on Saturday. Construction operations for the project, including equipment arrival, are expected to occur from within the hours of 7:00 a.m. to 3:00 p.m. Monday through Friday. Consistent with Section 13-6, actual operation of heavy equipment would not begin until 7:30 a.m., although equipment warm up may begin between 7:00 a.m. and 7:30 a.m. Project construction would not require construction work throughout weekend hours; however, through coordination with Caltrans, night work may be occur along the Tiburon Boulevard alignment.

The Town's General Plan also contains Policy N-10, which requires standard quiet construction methods when construction activities occur within 500 feet of noise sensitive areas. Construction of the proposed project would not require any unusual construction methods that would have the potential to generate noise levels above standard levels. The Town's General Plan EIR concluded that construction noise impacts resulting from buildout of the Town would be less than significant with consistency with Section 13-6 of the Tiburon Municipal Codes and General Plan Policy N-10 (Town of Tiburon 2016).

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodgings, libraries and certain types of passive recreational uses, such as parks to be used for reading, conversing or meditation. Noise-sensitive land uses within and adjacent to the project area include single-family residential development, Saint Hilary School and Del Mar Middle School.

Discussion

a,d. Expose Persons to or Generate Noise Levels in Excess of Standards, Temporary Increase in Ambient Noise Levels in Project Vicinity. Project construction would involve the use of heavy construction equipment that generates noise. Equipment likely to be used for constructing project features would include a dozer, backhoe, industrial saw, dump truck, compactor, paver, cement mixer, and crane. The Federal Highway Administration Roadway Construction Noise Model was used to estimate construction noise from this fleet. Due to the size of the construction area, it is assumed that only three pieces of construction equipment would be operating simultaneously at any given time in a single location. Simultaneous construction of the two noisiest pieces of construction equipment (industrial saw and compactor) would generate a noise level of approximately 83.5 dBA at 50 feet from the construction.

The anticipated construction alignment would be within 50 feet of residences, Saint Hilary Church and School, the Community Congregational Church, the Belvedere Tennis Club, and the Old Rail Trail. Therefore, sensitive receptors would be exposed to temporary construction noise. However, due to the linear nature of the project, individual receptors would only be exposed to construction noise for a short time, rather than the duration of project construction. Implementation of **Mitigation Measure NOI-1** would further reduce construction related noise impacts. Therefore, impacts related to noise generated during construction would be less-than-significant with

mitigation. Following construction, the project would consist of underground utility infrastructure and would not generate any audible operational noise.

Mitigation Measure NOI-1: The following noise control measures would be implemented to minimize construction-related noise impacts on nearby sensitive receptors.

1. Stationary construction noise sources, will be located as far from nearby noise-sensitive receptors as possible.

2. Trucks will be prohibited from idling along streets serving the construction site where noise-sensitive residences are located.

3. Construction activities that could generate high noise levels at residences shall be scheduled during times that would have the least impact on receptor locations. This could include restricting construction activities in the areas of potential impact to middle hours of the work day, such as from 10:00 a.m. to 4:00 p.m. Monday to Friday, when residents would be least likely to be home.

4. Equipment and trucks used for project construction would be equipped, as feasible, with advanced noise control techniques (improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds).

5. A designated project liaison will be responsible for responding to noise complaints during construction. The name and phone number of the liaison will be included in all advanced notifications and on a sign easily visible at any active construction area. This person will take steps to resolve complaints, including, as necessary, conducting periodic noise monitoring, and coordinating with the contractor to modify any construction activities that generated excessive noise levels to the greatest extent feasible. In the event of noise complaints, the contractor will provide information to the Town within 48 hours of being notified of the complaint.

b. Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels. The main concern associated with groundborne vibration is usually annoyance. However, land uses containing vibration-sensitive instruments and operations, such as hospitals and laboratories, may have lower disturbance thresholds than would typically affect other land uses. Some common sources of groundborne vibration are trains and construction activities such as blasting, pile-driving and heavy earth-moving equipment. The proposed underground utilities would be located underground and would not be associated with rail traffic or other activities or uses that would result in vibration during project operation. The only source of groundborne vibration that may be associated with the project would come from construction activity.

In general, major construction activities within 200 feet may be potentially disruptive to sensitive operations (Caltrans 2004), compared to pile driving, which may be disruptive within 600 feet, and heavy truck traffic on freeways, which may be disruptive within 100 feet. The area surrounding the project site consists of residences and recreational land uses that are not vibration sensitive. There are no vibration sensitive land uses located within 200 feet of the proposed utility alignments.

Additionally, due to the size of the construction area and scope of the project, construction of the proposed project would not be considered major, as compared to a large freeway construction project as assumed in the reference Caltrans analysis (Caltrans 2004). A major construction project would involve multiple pieces of heavy equipment operating simultaneously and for extended periods of time. Construction equipment for the project would include a dozer, backhoe, industrial

saw, dump truck, compactor, paver, cement mixer, industrial saw, and crane. Although the types of construction equipment would be similar to a roadway construction project, the limited construction area of the project would require smaller construction equipment and minimal construction equipment would be operating simultaneously, which would minimize potential vibration exposure. Additionally, no pile driving or vibratory equipment would be required. Therefore, impacts would be less-than-significant.

c. Substantial Permanent Increase in Ambient Noise Levels. Following project construction activities, the project area would not result in a change in existing ambient noise levels, as the project would move existing aboveground utilities to underground alignments throughout the project area. No additional noise would be generated by the permanent undergrounded utilities, and therefore the project would have no permanent increases in ambient noise levels, and there would be no impact.

e,f. Project Area within an Airport Land Use Plan, or Within the Vicinity of a Public Airport or Private Airstrip. The project area is not located within an area within which an airport land use plan has been developed, and is not within a 2-mile radius of a public airport. The nearest airport facility, Gnoss Field, is located approximately 20 miles north of Tiburon. In addition, the Smith Ranch airstrip, a private facility, is located approximately 12 miles north of Tiburon. Additionally, the project would be located entirely underground. No new exposure to airport noise would result from the proposed project. No impact would occur.

XIII. Population and Housing		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Existing Conditions

According to the United States Census Bureau, the latest population estimate for the Town of Tiburon was in July of 2016, and was 9,176. The estimated annual growth rate for the town is 2.4 percent.

Implementation of the project would remove the aboveground utilities from within the project area and replace them with underground utilities. However, service would not be increased in any way, within or adjacent to the project area. Project implementation would also not increase the ability of the project area to support population growth. Project implementation would also not affect access to, or the removal of, any residential development within or adjacent to the project area.

Discussion

a. Induce Population Growth. The majority of the project would be located within the public right-of-way or in an area zoned single family residential (R-1). The project would not induce population growth, either directly by developing any homes or commercial uses or indirectly by extending roads or utility infrastructure to areas that are not currently planned for development. Thus, there would be no impact.

b, c. Displace Existing Housing Units or People. The project would not involve the displacement of housing units or people. There would be no impact.

XIV. Public Services		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:				
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

Existing Conditions

Public services are provided for the Town of Tiburon through a variety of local resources. The Tiburon Fire Protection District and Tiburon Police Department provide fire and police protection for the project area and surrounding community. The project area is located in the Reed Union School District for elementary and middle school students, and the Tamalpais Union High School District for high school students. The Old Rail Trail runs along the western border of the project area, dividing the Belvedere Tennis Club, pump station and residential development along Palmer Court from Richardson Bay. The Old Rail Trail is within the jurisdiction of the BCDC, and will require a permit in order to allow temporary trail closures throughout project construction activities within the immediate proximity of the Trail. BCDC requires a permit for nearly all work within 100 feet of the bay shore, and coordination from the Town with BCDC would be required for project implementation (**Appendix B,** Regulatory Setting) (Pers. Comm. Eric Buehmann, BCDC, June 6th, 2017). The trail provides opportunities for walking, running and cycling, and sweeping views of the Bay and Sausalito are enjoyed from the trail. Further recreation opportunities within proximity of the project area include the Middle Ridge Public Open Space that borders the uppermost portion of Rock View Road. This area supports hiking trails and views of the San Francisco Bay Area.

Discussion

a. Provision of Public Services. The project involves the removal of aboveground utilities, and replacing these with undergrounded utilities within public roadways and within the parking lot of the Belvedere Tennis Club within the project area. In addition, five aboveground utility poles and associated wires would be removed from the ditch and drainage located between the Belvedere Tennis Club and the Old Rail Trail, and adjacent residences on Palmer Court. The project would not result in any new permanent facilities, structures, or uses that would generate the need for additional fire or police services, or that would generate additional students in the Reed Union School District or the Tamalpais Union High School District. The project would also not generate new or increased demand for parks or other public facilities as the project would not result in an increase in the Town population. Therefore, there would be no impact.

XV. Recreation		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	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.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Existing Conditions

There are a number of recreational opportunities available within the project area, and within the greater Town of Tiburon. The Old Rail Trail runs along the western border of the project area, dividing the Belvedere Tennis Club, pump station and residential development along Palmer Court from Richardson Bay. The Old Rail Trail is within the jurisdiction of the BCDC, and will require a permit in order to allow temporary trail closures throughout project construction activities within the immediate proximity of the Trail. BCDC requires a permit for nearly all work within 100 feet of the Bay shore, and coordination from the Town with BCDC would be required for project implementation (**Appendix B,** Regulatory Setting) (Pers. Comm. Eric Buehmann, BCDC, June 6th, 2017). The trail provides opportunities for walking, running and cycling, and sweeping views of the Bay and Sausalito are enjoyed from the trail. The project area also includes the Belvedere Tennis Club, a private club that provides tennis, swim, fitness and social facilities, in addition to a variety of programs for members of all ages. The uppermost portion of the project area, along Rock Hill Road, is bordered by the Middle Ridge Public Open Space. This area supports hiking trails and views of the San Francisco Bay Area.

Discussion

a, b. Increase Use of Existing Parks or Recreational Facilities, or Require Expansion of Recreational Facilities. The project would not result in an increase in the population or otherwise increase demand for parks or recreational facilities. However, the removal of the aboveground utilities would enhance views from the Old Rail Trail, and therefore may attract larger crowds that would utilize the existing trail system, both within the project area, and the connecting Richardson Bay Linear Park. Although there may be an increase in the use of the Trail following the removal of the aboveground utilities, it is expected that the existing facilities can adequately support a small increase in recreation users. Therefore, project implementation would not result in the need to expand existing recreational facilities, including the Old Rail Trail that runs throughout and beyond the western border of the project area, or the nearby Middle Ridge Public Open Space.

The Belvedere Tennis Club is a private facility that requires membership for use of the facility. Implementation of the project would not increase the population of the Town or adjacent areas, and therefore would not affect the number of applicants for membership of the club. Furthermore, the

project would not impact or displace any recreational facilities, or require expansion of existing or new recreational facilities through implementation.

During project construction, the removal of the five utility poles within the ditch and drainage adjacent to the Old Rail Trail and the Belvedere Tennis Club tennis courts, could result in temporary disruption to use of the Trail and tennis courts to ensure the safety of users. The Town would coordinate construction activities with the Belvedere Tennis Club, as an affected property. The Town would be required to obtain a permit from BCDC, as the Old Rail Trail is located within their jurisdiction, and specifications for temporary closure of the Trail during a portion of project construction would be detailed through the permitting process. The Town would provide signage, informing Trail users of dates of trail closures, detours would be identified, and the extent of Trail closure, both in distance and time, would be minimized to the greatest extent possible. These measures would also be included in the project Traffic Control Plan, as described in the Project Description, to ensure implementation throughout project construction activities. Therefore, the project would have a less-than-significant impact on recreational facilities.

XVI. Transportation/Traffic		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b.	Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e.	Result in inadequate emergency access?	☐	☐	☒	☐
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Existing Conditions

The majority of the project area is located within the public right of way along Delmar Drive, Hawthorne Drive, Maravista Court, Palmer Court, Rock Hill Road, Hilary Court, and portions of Hilary Drive and Tiburon Boulevard. Tiburon Boulevard (State Route 131) is the only roadway within the project area that operates under the jurisdiction of Caltrans.

Discussion

a, b. Cause Increase in Traffic or Exceedance of a Level-of-Service Standard. The project would result in a minor increase in construction-related traffic throughout project implementation. Once project construction activities are complete, the number of trips to and from the project area would remain the same as existing conditions.

Construction activities would require construction vehicles for site preparation, excavation, materials delivery, undergrounding utilities, backfilling and paving. There would also be workers commuting to the project area. Workers and construction vehicles would access the site primarily from Tiburon Boulevard. It is estimated that there would be up to approximately three workers per day working within the project area, and an average of 12 truck deliveries (for import and export of materials) per day for vault construction activities, 16 truck deliveries per day for conduit related construction activities and 1 truck delivery per day for pole related construction activities, over an approximately four to six month construction period, resulting in an overall increase in vehicle trips per day on surrounding roadways.

As detailed in the project description, project implementation would include the preparation of a traffic control plan. The plan would ensure that roadways within the project area would remain open throughout project implementation to the greatest extent possible, and that lane and/or road closures would be safely and effectively managed with appropriate traffic safety flags and signage. Prior notification signage would also be posted throughout the project and adjacent impacted areas. With implementation of the traffic control plan, construction-related traffic impacts would be less-than-significant.

For operations and maintenance, the facilities maintenance staff who currently visit the project area would continue to visit the area for periodic inspections with no substantial increase in trips compared with current conditions. Because the number of trips attributable to operations and maintenance would be similar, there would be no substantial change in trips, and the project would not degrade the operation of local roadways. Therefore, this impact would be less-than-significant. No mitigation is required.

c. Change in Air Traffic Patterns. The project area is approximately 20 miles south of Gross Field Airport, and 12 miles south of Smith Ranch, the closest airstrips to the site. The project would not affect air traffic patterns. There would be no impact.

d. Increase Hazards due to Design Feature. The project does not include any design features that would increase any types of traffic hazards. There would be no impact.

e. Inadequate Emergency Access. The project would not permanently alter the Town roadways in any way that would impair implementation of an adopted emergency response plan or emergency evacuation plan**.** Throughout project implementation, temporary lane and/or road closures and slow-moving construction vehicles could delay or obstruct the movement of emergency vehicles throughout the project area. The project description includes the implementation of a traffic control plan, which includes notification of emergency service providers of construction activities, and retaining emergency access routes at all times throughout the entire project area and surrounding areas. Therefore, this impact would be less-than-significant. No mitigation would be required.

f. Conflict with Alternative Transportation Policies. The project would not conflict with any adopted programs or policies associated with alternative transportation. There would be no impact.

XVII. Tribal Cultural Resources		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resources, 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:					
a.	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020. 1(k), or	☐	☒	☐	☐
b.	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Background

In accordance with Assembly Bill 52 (AB 52), CEQA was amended to mandate consultation with California Native American tribes during the CEQA process to determine whether a proposed project would have impacts on Tribal Cultural Resources, because California tribes are experts in their Tribal Cultural Resources and heritage. Therefore, in compliance with AB 52, the Town initiated consultation with tribes, and consultation is concluded when the Town and tribes agree on appropriate mitigation measures to mitigate and/or avoid any significant impacts.

On July 12, 2017, as part of the tribal consultation process with Native American groups and individuals, Scott Anderson, Director of Community Development for the Town of Tiburon mailed Project initiation letters, including a project map and description, to the following Native American contacts listed for Tiburon's geographic area of jurisdiction:

- Greg Sarris, Chairman, Federated Indians of Graton Rancheria
- Gene Buvelot, Federated Indians of Graton Rancheria
- Michael Mirelez, Cultural Resource Coordinator, Torres Martinez Desert Cahuilla Indians

Prior to project implementation, the Town would enter into a Tribal Cultural Resource Treatment, Cultural Resource Curation, and Monitoring Agreement with the Federated Indians of Graton Rancheria. The purposes of the agreement are to provide the Town with clear expectations regarding tribal cultural resources, and to formalize protocols and procedures between the Town and the Federated Indians of Graton Rancheria for the protection and treatment of tribal cultural resources. This includes, but is not

limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground disturbing activities.

Discussion

a,b. AB 52 established that a substantial adverse change to a Tribal Cultural Resource would have a significant impact on the environment. Based on archival and field based research of the PAL, it is not anticipated that tribal resources would be impacted through project implementation. However, there always remains the potential for ground-disturbing activities to expose and/or impact unknown tribal cultural resources, which could result in significant impacts to tribal cultural resources. This potential impact would be reduced to a less than significant level with implementation of **Mitigation Measures CR-1. Stop Work in the Event of Unexpected Occurrence of Cultural Resources during Construction, CR-2. Stop Work in the Event of Unexpected Occurrence of Human Remains during Construction**, and **TCR-1. Monitor Ground Disturbance during Construction. Mitigation Measures CR-1** and **CR-2** are described under Section V, Cultural Resources.

Mitigation Measure TCR-1. Monitor Ground Disturbance during Construction. Prior to the commencement of any ground disturbing activities for the project, the Town shall retain a qualified archaeologist, who has experience with historical archaeological sites and who meets the Secretary of the Interior's Professional Qualifications Standards as promulgated in 36 CFR 61, and a Native American monitor, who shall perform the following activities.

- The archaeologist and the Native American monitor shall attend a pre-construction meeting with the grading contractor to explain the requirements of the monitoring program.
- The archaeologist and the Native American monitor shall be present to monitor ground-disturbing activities, including brushing/grubbing, grading, and trenching. If cultural material is encountered, the archaeologist and the Native American monitor shall have the authority to temporarily halt or redirect grading and other ground-disturbing activity while the cultural material is documented and assessed.
- If cultural material is encountered, the archaeologist shall treat recovered items in accordance with current professional standards by properly provenancing, cleaning, analyzing, researching, reporting, and curating them in a collection facility meeting the Secretary of the Interior's Standards, as promulgated in 36 CFR 79.
- Within sixty days after completion of the ground-disturbing activity, the archaeologist shall prepare and submit a final report to the Town for review and approval, which shall discuss the monitoring program and its results, and provide interpretations about the recovered materials, noting to the extent feasible each item's class, material, function, and origin.

XVIII. Utilities and Service Systems		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e.	Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Existing Conditions

Public utilities and services are provided through a variety of resources throughout the project area. The Marin Municipal Water District provides the Town with water services, and provides water treatment and distribution services. The Town of Tiburon Public Works Department maintains the stormwater drain system throughout the Town. The Richardson Bay Sanitary District provides wastewater services throughout the project area, and power and natural gas are supplied by PG&E.

Refuse, including recyclable materials, that is generated through project construction and demolition would be collected by the Mill Valley Refuse Company and transferred to the Redwood Landfill, located in Novato. This facility has a remaining capacity of approximately 10 million cubic yards, greatly exceeding the total amount of refuse expected to be generated through project construction and demolition activities.

Discussion

a, b, e. Wastewater Treatment Requirements, Water/Wastewater Treatment Facilities. The project would underground existing aboveground utilities, and replace them with underground utilities. Implementation of the project would not affect nor require water or wastewater treatment facilities, nor result in the construction of new water or wastewater treatment facilities, and thus would not exceed wastewater treatment requirements of the RWQCB. As such, there would be no impact.

c. Stormwater Drainage Facilities. The project would not alter any stormwater drainages, nor result in the addition of stormwater drainage throughout the project area. Therefore, there would be no impact.

d. Water Supplies. The project does not require water for operation, and water supplies would not be extended throughout the project area beyond existing conditions. Therefore, there would be no impact.

f, g. Solid Waste. Project construction and demolition activities are not anticipated to generate a substantial amount of solid waste. However, refuse, including recyclable materials, that would be generated by the project would be hauled offsite by the Mill Valley Refuse Company and transferred to the Redwood Landfill in Novato, which has adequate space to accommodate project needs. The project would not result in the permanent generation of solid waste over time. Construction and demolition activities would generate the total solid waste for the life of the project. Therefore, this impact is considered less-than-significant, and no mitigation is necessary.

XIX. Mandatory Findings of Significance		Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Does the project have the potential to 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a. As described in Sections IV, Biological Resources, and V, Cultural Resources, project construction activities have the potential to degrade the quality of riparian habitat located in the ditch and drainages and adversely affect previously undiscovered buried cultural resources that could be important examples of California history and prehistory.

Although the project would impact riparian habitat, the habitat is suitable for any special status plant or fish species. Further, the site is disturbed and does not provide high quality habitat for wildlife species. Section IV identifies biological mitigation measures to avoid potential impacts to CRLF and migratory birds to reduce potential impacts to sensitive species to a less than significant level.

Although intrusion on any previously undiscovered cultural or historic resources is not anticipated, it is possible given the rich history of the area. Section V identifies cultural resource mitigation measures to reduce potential impacts to unexpected resources to a less-than-significant level.

Therefore, these impacts would be less than significant with mitigation, and the project would not have the potential to substantially degrade the quality of the environment.

b. The significant cumulative impacts to which the project would contribute are air quality and greenhouse gas/climate change from construction-related emissions. Both air quality and greenhouse gas analyses are cumulative in nature, and the analysis of potential impacts in Section III, Air Quality, and VII, Greenhouse Gas, is undertaken in the context of the air quality basin and global climate change arena, respectively. The project would not exceed BAAQMD emissions thresholds for criteria pollutants and would not increase greenhouse gas emissions over existing conditions. Therefore, the project would not result in a considerable contribution to significant cumulative impacts.

Traffic is a common cumulative impact. However, none of the roads within the project area are expected to be permanently affected by project implementation, as the project would have no potential to expand the population of the Town or extend services within the Town. Following implementation of the project, existing use of local roadways would remain unchanged. Therefore, the project would not result in a considerable contribution to a significant cumulative impact.

c. As discussed in the preceding Environmental Checklist, the project would not have any significant effects. Therefore, it would not cause substantial adverse effects on human beings, either directly or indirectly. Potentially significant impacts requiring mitigation to reduce to a less than significant were identified for air quality, biological resources, noise, and tribal cultural resources. Those impacts with potential to adversely affect human beings include the construction-related air quality emissions and noise. As described in Sections III, Air Quality, and XII, Noise, all potential impacts were reduced to a less-than-significant level with mitigation.

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List of Preparers

Town of Tiburon, Lead Agency

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Sharon Toland – Air Quality/GHG/Noise Specialist

Shannon Bane – Biological Resources

Garcia & Associates, San Francisco – Cultural Resources

Appendix A
Air Quality Modeling

Hawthorne UG

Marin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	69
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on communication with Rocco 2/3

Off-road Equipment - Included equipment that is expected to be used during full year of construction, not just model defaults for a typical grading phase.

Grading - Assumption provided by Rocco 2/2 and 2/7

Energy Use - No on-site lighting

Off-road Equipment - Based on discussion with Rocco 2/3

Off-road Equipment - Based on discussion with Rocco 2/3

Off-road Equipment - Based on discussion with Rocco 2/3

Demolition -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	45.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	PhaseStartDate	1/20/2018	1/22/2018
tblConstructionPhase	PhaseStartDate	3/24/2018	3/26/2018
tblGrading	AcresOfGrading	0.00	0.10
tblGrading	AcresOfGrading	0.00	0.40
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	MaterialExported	0.00	481.00
tblGrading	MaterialExported	0.00	1,926.00
tblGrading	MaterialExported	0.00	21.00
tblGrading	MaterialImported	0.00	241.00
tblGrading	MaterialImported	0.00	963.00
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2019

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0778	0.7405	0.5915	1.1900e-003	0.0391	0.0366	0.0757	0.0183	0.0345	0.0529	0.0000	104.8513	104.8513	0.0217	0.0000	105.3075
Total	**0.0778**	**0.7405**	**0.5915**	**1.1900e-003**	**0.0391**	**0.0366**	**0.0757**	**0.0183**	**0.0345**	**0.0529**	**0.0000**	**104.8513**	**104.8513**	**0.0217**	**0.0000**	**105.3075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0778	0.7405	0.5915	1.1900e-003	0.0391	0.0366	0.0757	0.0183	0.0345	0.0529	0.0000	104.8512	104.8512	0.0217	0.0000	105.3074
Total	**0.0778**	**0.7405**	**0.5915**	**1.1900e-003**	**0.0391**	**0.0366**	**0.0757**	**0.0183**	**0.0345**	**0.0529**	**0.0000**	**104.8512**	**104.8512**	**0.0217**	**0.0000**	**105.3074**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0964	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0964**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0964	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0964**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Installation of Vaults	Grading	1/1/2018	1/19/2018	5	15	
2	Installation of Conduits	Grading	1/22/2018	3/23/2018	5	45	
3	Removal of Poles	Grading	3/26/2018	4/13/2018	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Installation of Vaults	Concrete/Industrial Saws	1	8.00	81	0.73
Removal of Poles	Concrete/Industrial Saws	1	8.00	81	0.73
Installation of Conduits	Concrete/Industrial Saws	1	8.00	81	0.73
Removal of Poles	Rubber Tired Dozers	1	1.00	255	0.40
Installation of Conduits	Rubber Tired Dozers	1	1.00	255	0.40
Removal of Poles	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Installation of Conduits	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Installation of Vaults	Rubber Tired Dozers	1	1.00	255	0.40
Installation of Vaults	Off-Highway Trucks	1	6.00	400	0.38
Installation of Vaults	Plate Compactors	1	6.00	8	0.43
Installation of Vaults	Pavers	1	6.00	125	0.42
Installation of Vaults	Cement and Mortar Mixers	1	4.00	9	0.56
Installation of Conduits	Off-Highway Trucks	1	6.00	400	0.38
Installation of Vaults	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Installation of Conduits	Plate Compactors	1	6.00	8	0.43
Installation of Conduits	Pavers	1	6.00	125	0.42
Installation of Conduits	Cement and Mortar Mixers	1	4.00	9	0.56
Removal of Poles	Cranes	1	4.00	226	0.29
Removal of Poles	Off-Highway Trucks	1	6.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Removal of Poles	6	15.00	0.00	3.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of Conduits	8	20.00	0.00	361.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of Vaults	7	18.00	0.00	90.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Installation of Vaults - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.7400e-003	0.0000	5.7400e-003	3.1200e-003	0.0000	3.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1240	0.0912	1.8000e-004		6.3200e-003	6.3200e-003		5.9800e-003	5.9800e-003	0.0000	15.8112	15.8112	3.9100e-003	0.0000	15.8932
Total	**0.0129**	**0.1240**	**0.0912**	**1.8000e-004**	**5.7400e-003**	**6.3200e-003**	**0.0121**	**3.1200e-003**	**5.9800e-003**	**9.1000e-003**	**0.0000**	**15.8112**	**15.8112**	**3.9100e-003**	**0.0000**	**15.8932**

3.2 Installation of Vaults - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0100e-003	0.0110	0.0128	3.0000e-005	7.5000e-004	1.5000e-004	9.0000e-004	2.1000e-004	1.4000e-004	3.4000e-004	0.0000	2.9280	2.9280	2.0000e-005	0.0000	2.9285
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	5.8000e-004	5.2800e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0409	1.0409	5.0000e-005	0.0000	1.0419
Total	**1.4200e-003**	**0.0116**	**0.0181**	**4.0000e-005**	**1.9700e-003**	**1.6000e-004**	**2.1300e-003**	**5.3000e-004**	**1.5000e-004**	**6.7000e-004**	**0.0000**	**3.9689**	**3.9689**	**7.0000e-005**	**0.0000**	**3.9704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.7400e-003	0.0000	5.7400e-003	3.1200e-003	0.0000	3.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1240	0.0912	1.8000e-004		6.3200e-003	6.3200e-003		5.9800e-003	5.9800e-003	0.0000	15.8112	15.8112	3.9100e-003	0.0000	15.8932
Total	**0.0129**	**0.1240**	**0.0912**	**1.8000e-004**	**5.7400e-003**	**6.3200e-003**	**0.0121**	**3.1200e-003**	**5.9800e-003**	**9.1000e-003**	**0.0000**	**15.8112**	**15.8112**	**3.9100e-003**	**0.0000**	**15.8932**

3.2 Installation of Vaults - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0100e-003	0.0110	0.0128	3.0000e-005	7.5000e-004	1.5000e-004	9.0000e-004	2.1000e-004	1.4000e-004	3.4000e-004	0.0000	2.9280	2.9280	2.0000e-005	0.0000	2.9285
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	5.8000e-004	5.2800e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0409	1.0409	5.0000e-005	0.0000	1.0419
Total	**1.4200e-003**	**0.0116**	**0.0181**	**4.0000e-005**	**1.9700e-003**	**1.6000e-004**	**2.1300e-003**	**5.3000e-004**	**1.5000e-004**	**6.7000e-004**	**0.0000**	**3.9689**	**3.9689**	**7.0000e-005**	**0.0000**	**3.9704**

3.3 Installation of Conduits - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0173	0.0000	0.0173	9.3600e-003	0.0000	9.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0433	0.4165	0.3129	5.9000e-004		0.0221	0.0221		0.0208	0.0208	0.0000	52.2217	52.2217	0.0132	0.0000	52.4992
Total	**0.0433**	**0.4165**	**0.3129**	**5.9000e-004**	**0.0173**	**0.0221**	**0.0394**	**9.3600e-003**	**0.0208**	**0.0302**	**0.0000**	**52.2217**	**52.2217**	**0.0132**	**0.0000**	**52.4992**

3.3 Installation of Conduits - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0600e-003	0.0441	0.0514	1.3000e-004	3.0200e-003	6.0000e-004	3.6200e-003	8.3000e-004	5.5000e-004	1.3800e-003	0.0000	11.7446	11.7446	9.0000e-005	0.0000	11.7464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	1.9400e-003	0.0176	5.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.4696	3.4696	1.6000e-004	0.0000	3.4730
Total	**5.4300e-003**	**0.0461**	**0.0691**	**1.8000e-004**	**7.0900e-003**	**6.3000e-004**	**7.7200e-003**	**1.9100e-003**	**5.8000e-004**	**2.4900e-003**	**0.0000**	**15.2141**	**15.2141**	**2.5000e-004**	**0.0000**	**15.2194**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0173	0.0000	0.0173	9.3600e-003	0.0000	9.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0433	0.4165	0.3129	5.9000e-004		0.0221	0.0221		0.0208	0.0208	0.0000	52.2217	52.2217	0.0132	0.0000	52.4991
Total	**0.0433**	**0.4165**	**0.3129**	**5.9000e-004**	**0.0173**	**0.0221**	**0.0394**	**9.3600e-003**	**0.0208**	**0.0302**	**0.0000**	**52.2217**	**52.2217**	**0.0132**	**0.0000**	**52.4991**

3.3 Installation of Conduits - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0600e-003	0.0441	0.0514	1.3000e-004	3.0200e-003	6.0000e-004	3.6200e-003	8.3000e-004	5.5000e-004	1.3800e-003	0.0000	11.7446	11.7446	9.0000e-005	0.0000	11.7464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	1.9400e-003	0.0176	5.0000e-005	4.0700e-003	3.0000e-005	4.1000e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.4696	3.4696	1.6000e-004	0.0000	3.4730
Total	**5.4300e-003**	**0.0461**	**0.0691**	**1.8000e-004**	**7.0900e-003**	**6.3000e-004**	**7.7200e-003**	**1.9100e-003**	**5.8000e-004**	**2.4900e-003**	**0.0000**	**15.2141**	**15.2141**	**2.5000e-004**	**0.0000**	**15.2194**

3.4 Removal of Poles - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9100e-003	0.0000	5.9100e-003	3.1300e-003	0.0000	3.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1415	0.0954	1.9000e-004		7.3900e-003	7.3900e-003		6.9600e-003	6.9600e-003	0.0000	16.6704	16.6704	4.2500e-003	0.0000	16.7595
Total	**0.0143**	**0.1415**	**0.0954**	**1.9000e-004**	**5.9100e-003**	**7.3900e-003**	**0.0133**	**3.1300e-003**	**6.9600e-003**	**0.0101**	**0.0000**	**16.6704**	**16.6704**	**4.2500e-003**	**0.0000**	**16.7595**

3.4 Removal of Poles - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	3.7000e-004	4.3000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0976	0.0976	0.0000	0.0000	0.0976
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	4.9000e-004	4.4000e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8674	0.8674	4.0000e-005	0.0000	0.8682
Total	**3.7000e-004**	**8.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.0500e-003**	**1.0000e-005**	**1.0600e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9650**	**0.9650**	**4.0000e-005**	**0.0000**	**0.9659**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9100e-003	0.0000	5.9100e-003	3.1300e-003	0.0000	3.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1415	0.0954	1.9000e-004		7.3900e-003	7.3900e-003		6.9600e-003	6.9600e-003	0.0000	16.6703	16.6703	4.2500e-003	0.0000	16.7595
Total	**0.0143**	**0.1415**	**0.0954**	**1.9000e-004**	**5.9100e-003**	**7.3900e-003**	**0.0133**	**3.1300e-003**	**6.9600e-003**	**0.0101**	**0.0000**	**16.6703**	**16.6703**	**4.2500e-003**	**0.0000**	**16.7595**

3.4 Removal of Poles - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	3.7000e-004	4.3000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0976	0.0976	0.0000	0.0000	0.0976
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	4.9000e-004	4.4000e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8674	0.8674	4.0000e-005	0.0000	0.8682
Total	**3.7000e-004**	**8.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.0500e-003**	**1.0000e-005**	**1.0600e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9650**	**0.9650**	**4.0000e-005**	**0.0000**	**0.9659**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.546125	0.066484	0.182879	0.120053	0.033988	0.004085	0.013389	0.012585	0.001893	0.008218	0.007984	0.000718	0.001600

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0964	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	0.0964	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0114					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0851					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**0.0964**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Consumer Products	0.0851					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Architectural Coating	0.0114					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0964**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

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Appendix B
Regulatory Setting

Regulatory Setting

Federal Laws and Regulations

Clean Water Act

The federal Clean Water Act (CWA) is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. As such, it empowers the United States Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and establishes permit review mechanisms to enforce them, operating on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit.

Most of the CWA's provisions are at least indirectly relevant to the management and protection of biological resources because of the link between water quality and ecosystem health. The portions of the CWA that are most directly relevant to biological resources management are contained in CWA Section 404, which regulates the discharge of dredged and fill materials into "waters of the United States," including all areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned; and seasonal and perennial wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3).

CWA Section 404 requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including oceans, bays, rivers, streams, lakes, ponds, and wetlands, before proceeding with a proposed activity. The USACE may issue either an individual permit evaluated on a case-by-case basis, or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects.

For the proposed project, under new guidance to Corps staff regarding the "fallback" (small amount of dirt that could potentially fall into the drainages) loosened by the removal of the utility poles would not constitute a discharge of fill, and would not need a permit. This would include activities to backfill the holes with dirt, but would not include any grading activities. If any grading is conducted, it would need a Nationwide Permit. For the trenching on roads, if culverts are left undisturbed and utilities are laid over or under them, a permit would not be required. If a culvert is lifted, moved, or changed in any way, the project would require a Nationwide Permit.

Nationwide Permits (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met in order for the NWP to apply to a particular project. Waters of the United States both at the project site and within its vicinity are under the jurisdiction of the USACE. If needed, this project would qualify for a Nationwide Permit 3 (Maintenance) or Nationwide Permit 12 (Utility Line Activities).

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations, including NEPA, the ESA, the federal Coastal Zone Management Act, and the National Historic Preservation Act. In addition, the USACE cannot issue or verify any permit until a water quality certification, or waiver of certification, has been issued (by the State Regional Water Quality Control Board) pursuant to CWA Section 401. Section 404 permits may be issued only for the least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and lacks other significant adverse consequences.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or "take", which is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental.

Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA.

The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

To avoid and minimize impacts to species protected under FESA, this project includes standard avoidance and minimization measures for listed species that could potentially occur in the project area.

Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. The MBTA prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests; and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the Department of the Interior in its April 16, 2003 Migratory Bird Permit Memorandum. Nest starts (nests that are under construction and do not yet contain eggs) are not protected from destruction. To avoid and minimize impacts to species protected under MBTA, this project includes standard avoidance and minimization measures for species that could potentially occur in the project area.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles including their parts, nests or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb". For purposes of the "Bald Eagle Management Guidelines and Conservation Measures" the term "disturb" means to "agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its

productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior". In addition to immediate impacts, this definition also covers impact that result from human-induced alteration initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering behavior and causes injury, death or nest abandonment (USFWS 2011c). To avoid and minimize impacts to bald and golden eagles, this project includes standard avoidance and minimization measures for these species.

State Laws and Regulations

Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect Waters of the State. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of Waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the State include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on Waters of the State require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. If this project files for a Nationwide Permit under the CWA, it must then also consult with the RWQCB.

Under the Porter-Cologne Act, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification." To avoid and minimize impacts to species protected under CESA, this project includes standard avoidance and minimization measures for listed species that could potentially occur in the project area.

California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources.

The State Resources Agency promulgated guidelines for implementing CEQA known as the State CEQA Guidelines. Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the California Endangered Species Act (CESA) and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection.

All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b). The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the CNPS Inventory of Rare and Endangered Plants. The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects to these species may be considered significant. Impacts on plants that are listed by the CNPS on CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of "special concern" are tracked in Rarefind (CNDDB 2016). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and

state (S) rankings analogous to those provided in the CNDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings are a reflection of the condition of a habitat within California. If an alliance is marked as a G1–G3, all of the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations (CDFW 2010).

To avoid and minimize impacts to species protected under CEQA, this project includes standard avoidance and minimization measures for listed species that could potentially occur in the project area.

California Fish and Game Code

The California Fish and Game Code (Code) provides a variety of species protection from unauthorized take. The Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Certain species are considered fully protected, meaning that the Code explicitly prohibits all take of individuals of these species, except for take required for scientific research, which may be authorized by CDFG. Section 5050 of the Code lists fully protected amphibians and reptiles, Section 5515 lists fully protected fishes, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

The Code provides less stringent protection for other species, prohibiting most take, but permitting CDFG to issue regulations authorizing take under certain circumstances. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) are protected under Sections 3513 and 3503.5, birds of prey are protected under Section 3503.5, migratory non-game birds are protected under Section 3800, and other specified birds are protected under Section 3505.

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of nongame mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW.

To avoid and minimize impacts to species protected under Fish and Game Code, this project includes standard avoidance and minimization measures for listed species that could potentially occur in the project area.

<u>Lake or Streambed Alteration Agreements (Section 1600et seq.)</u>

Section 1600 regulates activities that interfere with the natural flow of, or substantially alter the channel, bed, or bank of a lake, river, or stream. Lake and streambed alteration activities are covered under Section 1600. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements administered under Section 1600 et seq.

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A stream is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that follows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."

Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as a part of a watercourse. California Fish and Game Code Section 2786 defines riparian habitat as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk.

At minimum, CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds." California Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake.

If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

The ditch and two drainages identified within the project area fall within CDFW jurisdiction. It is unlikely that the removal of the utility poles in and adjacent to these resources would constitute a "substantial change" to them, although CDFW recommends an informal consultation to confirm. The removal of trees and/or their limbs (tree trimming) adjacent to the drainages and/or ditch would require an LSAA from CDFW. Disturbance to any of the culverts that pass under the roads within the project area would need an LSAA; if construction crews can place the utility line over or under the culvert without lifting, moving, or changing it, an LSAA would not be needed.

Local

McAteer-Petris Act

In response to uncoordinated and indiscriminate filling of the Bay, the California legislature passed the McAteer-Petris Act in 1965, establishing the San Francisco Bay Conservation and Development Commission (BCDC) as the management and regulatory agency for the San Francisco Bay and Delta. A permit must be obtained from the BCDC for shoreline projects; dredge and fill activities in the Bay or certain tributaries, salt ponds, or managed wetlands; and Suisun Marsh projects.

The limits of BCDC jurisdiction are defined in the Bay Plan, and include a 100-ft wide band along the shoreline of the Bay. The "shoreline" is defined as all areas that are subject to tidal action from the south end of the Bay to the Golden Gate (Point Bonita-Point Lobos), and to the Sacramento River line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut). In addition, the BCDC will take jurisdiction over the marshlands lying between mean high tide and up to 5 ft above mean sea level (MSL), where marsh vegetation is present; tidelands (land lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide).

Any project within the jurisdiction of BCDC requires consultation and a permit, including the utility pole removal and recreational trail closure activities associated with this project. Based on informal consultation with BCDC, it is anticipated that the proposed project will require a regionwide permit, as impacts to lands within their jurisdiction will be minimal.

Appendix C
Sensitive Species and their Potential to Occur within the Hawthorne Utility Undergrounding Project Area

Appendix D.
Sensitive Species and their Potential to Occur within the Hawthorn Undergrounding District Project Area

Species	Scientific Name	Status (Fed/State/Other)	Habitat	Specific Habiat Needs	Potential to Occur in Project Area
Wildlife					
California red-legged frog	*Rana draytonii*	T/-/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Known to occur 1.5 miles from project area. Could travel overland into project area, but unlikely due to developed nature and little habitat availability
Tiburon micro-blind harvestman	*Microcina tiburona*	-/-/-	Open hilly grassland habitat in areas of serpentine bedrock.	Found on the undersides of serpentine rocks near permanent springs.	No suitable habitat in project area
Cooper's hawk	*Accipiter cooperii*	-/-/WL	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No suitable habitat in project area
great egret	*Ardea alba*	-/-/S	Colonial nester in large trees.	Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
great blue heron	*Ardea herodias*	-/-/S	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
short-eared owl	*Asio flammeus*	-/-/SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields.	Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	No suitable habitat in project area
northern harrier	*Circus cyaneus*	-/-/SSC	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No suitable habitat in project area
snowy egret	*Egretta thula*	-/-/-	Colonial nester, with nest sites situated in protected beds of dense tules.	Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
white-tailed kite	*Elanus leucurus*	-/-/FP, S	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No nesting habitat in the project area; marginal foraging habitat is available in the ditch and riparian habitats
California black rail	*Laterallus jamaicensis coturniculus*	-/T/FP, S, BCC	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	No suitable habitat in project area
Alameda song sparrow	*Melospiza melodia pusillula*	-/-/SSC, BCC	Resident of salt marshes bordering south arm of San Francisco Bay.	Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	No suitable habitat in project area
San Pablo song sparrow	*Melospiza melodia samuelis*	-/-/SSC, BCC	Resident of salt marshes along the north side of San Francisco and San Pablo bays.	Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	No suitable habitat in project area
black-crowned night heron	*Nycticorax nycticorax*	-/-/-	Colonial nester, usually in trees, occasionally in tule patches.	Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	No suitable habitat in project area
double-crested cormorant	*Phalacrocorax auritus*	-/-/WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state.	Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No suitable habitat in project area
California Ridgway's rail	*Rallus obsoletus obsoletus*	E/E/FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay.	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	No suitable habitat in project area
longfin smelt	*Spirinchus thaleichthys*	C/T/SSC	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	No suitable habitat in project area
eulachon	*Thaleichthys pacificus*	T/-/-	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries.	Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	No suitable habitat in project area
Opler's longhorn moth	*Adela oplerella*	-/-/-	From Marin County and the Oakland area on the inner coast ranges south to Santa Clara County. One record from Santa Cruz County.	All but Santa Cruz site is on serpentine grassland. Larvae feed on Platystemon californicus.	No suitable habitat in project area
obscure bumble bee	*Bombus caliginosus*	-/-/-	Coastal areas from Santa Barabara county to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	No suitable habitat in project area
western bumble bee	*Bombus occidentalis*	-/-/S	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.		No suitable habitat in project area
monarch - California overwintering population	*Danaus plexippus pop. 1*	-/-/S	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	No suitable habitat in project area
pallid bat	*Antrozous pallidus*	-/-/SSC, S, H	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	No suitable habitat in project area
San Pablo vole	*Microtus californicus sanpabloensis*	-/-/SSC	Saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay.	Constructs burrow in soft soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow.	No suitable habitat in project area
salt-marsh harvest mouse	*Reithrodontomys raviventris*	E/E/FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	No suitable habitat in project area
salt-marsh wandering shrew	*Sorex vagrans halicoetes*	-/-/SSC	Salt marshes of the south arm of San Francisco Bay.	Medium high marsh 6-8 ft above sea level where abundant driftwood is scattered among Salicornia.	No suitable habitat in project area
mimic tryonia (=California brackishwater snail)	*Tryonia imitator*	-/-/-	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County.	Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	No suitable habitat in project area

Appendix D.
Sensitive Species and their Potential to Occur within the Hawthorn Undergrounding District Project Area

Species	Scientific Name	Status (Fed/State/Other)	Habitat	Specific Habiat Needs	Potential to Occur in Project Area
Plants					
coastal triquetrella	*Triquetrella californica*	-/-/1B.2, S	Coastal bluff scrub, coastal scrub.	Grows within 30m from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops. 10-100 m.	No suitable habitat in project area
Napa false indigo	*Amorpha californica var. napensis*	-/-/1B.2, S	Broadleafed upland forest, chaparral, cismontane woodland.	Openings in forest or woodland or in chaparral. 30-735 m	No suitable habitat in project area
Tiburon paintbrush	*Castilleja affinis var. neglecta*	E/T/1B.2	Valley and foothill grassland.	Rocky serpentine sites. 120-400 m.	No suitable habitat in project area
Point Reyes salty bird's-beak	*Chloropyron maritimum ssp. palustre*	-/-/1B.2, S	Coastal salt marsh.	Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. 0-115 m.	Although this species is identified as potentially occurring in the project area, the site is not wet or salty enough for this species or its associated species
Tiburon buckwheat	*Eriogonum luteolum var. caninum*	-/-/1B.2	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie.	Serpentine soils; sandy to gravaelly sites. 0-700 m.	No suitable habitat in project area
Marin western flax	*Hesperolinon congestum*	T/T/1B.1	Chaparral, valley and foothill grassland.	In serpentine barrens and in serpentine grassland and chaparral. 60-370 m.	No suitable habitat in project area
white-rayed pentachaeta	*Pentachaeta bellidiflora*	E/E/1B.1	Valley and foothill grassland, cismontane woodland.	Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 35-610 m.	No suitable habitat in project area
hairless popcornflower	*Plagiobothrys glaber*	-/-/1A	Meadows and seeps, marshes and swamps.	Coastal salt marshes and alkaline meadows. 5-125 m.	No suitable habitat in project area
Tiburon jewelflower	*Streptanthus glandulosus ssp. niger*	E/E/1B.1	Valley and foothill grassland.	Shallow, rocky serpentine slopes. 30-150 m.	No suitable habitat in project area
Suisun Marsh aster	*Symphyotrichum lentum*	-/-/1B.2	Marshes and swamps (brackish and freshwater).	Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. 0-15 m.	No suitable habitat in project area
two-fork clover	*Trifolium amoenum*	E/-/1B.1	Valley and foothill grassland, coastal bluff scrub.	Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. 5-310 m.	No suitable habitat in project area
saline clover	*Trifolium hydrophilum*	-/-/1B.2	Marshes and swamps, valley and foothill grassland, vernal pools.	Mesic, alkaline sites. 1-335 m.	No suitable habitat in project area
Coastal Terrace Prairie	*Coastal Terrace Prairie*	-/-/-			Habitat not found in project area
Serpentine Bunchgrass	*Serpentine Bunchgrass*	-/-/-			No suitable habitat in project area
Tiburon mariposa-lily	*Calochortus tiburonensis*	T/T/1B.1	Valley and foothill grassland.	On open, rocky, slopes in serpentine grassland. 50-150 m.	No suitable habitat in project area
fragrant fritillary	*Fritillaria liliacea*	-/-/1B.2, S	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland.	Often on serpentine; various soils reported though usually on clay, in grassland. 3-400 m.	No suitable habitat in project area
Habitats					
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	-/-/-			Habitat not found in project area

Key
E: Endangered
T: Threatened
SSC: CDFW Species of Special Concern
S: BLM , USFS, or CDF Sensitive Species

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Appendix D
Greenhouse Gas Modeling

Hawthorne UG

Marin County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	69
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on communication with Rocco 2/3

Off-road Equipment - Included equipment that is expected to be used during full year of construction, not just model defaults for a typical grading phase.

Grading - Assumption provided by Rocco 2/2 and 2/7

Energy Use - No on-site lighting

Off-road Equipment - Based on discussion with Rocco 2/3

Off-road Equipment - Based on discussion with Rocco 2/3

Off-road Equipment - Based on discussion with Rocco 2/3

Demolition -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	45.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	PhaseStartDate	1/20/2018	1/22/2018
tblConstructionPhase	PhaseStartDate	3/24/2018	3/26/2018
tblGrading	AcresOfGrading	0.00	0.10
tblGrading	AcresOfGrading	0.00	0.40
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	MaterialExported	0.00	481.00
tblGrading	MaterialExported	0.00	1,926.00
tblGrading	MaterialExported	0.00	21.00
tblGrading	MaterialImported	0.00	241.00
tblGrading	MaterialImported	0.00	963.00
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2019

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.1554	20.4662	16.6374	0.0343	1.0973	1.0103	2.1076	0.5040	0.9520	1.4560	0.0000	3,317.1446	3,317.1446	0.6594	0.0000	3,330.9924
Total	**2.1554**	**20.4662**	**16.6374**	**0.0343**	**1.0973**	**1.0103**	**2.1076**	**0.5040**	**0.9520**	**1.4560**	**0.0000**	**3,317.1446**	**3,317.1446**	**0.6594**	**0.0000**	**3,330.9924**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.1554	20.4662	16.6374	0.0343	1.0973	1.0103	2.1076	0.5040	0.9520	1.4560	0.0000	3,317.1446	3,317.1446	0.6594	0.0000	3,330.9924
Total	**2.1554**	**20.4662**	**16.6374**	**0.0343**	**1.0973**	**1.0103**	**2.1076**	**0.5040**	**0.9520**	**1.4560**	**0.0000**	**3,317.1446**	**3,317.1446**	**0.6594**	**0.0000**	**3,330.9924**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5283	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.5283**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5283	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.5283**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Installation of Vaults	Grading	1/1/2018	1/19/2018	5	15	
2	Installation of Conduits	Grading	1/22/2018	3/23/2018	5	45	
3	Removal of Poles	Grading	3/26/2018	4/13/2018	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Installation of Vaults	Concrete/Industrial Saws	1	8.00	81	0.73
Removal of Poles	Concrete/Industrial Saws	1	8.00	81	0.73
Installation of Conduits	Concrete/Industrial Saws	1	8.00	81	0.73
Removal of Poles	Rubber Tired Dozers	1	1.00	255	0.40
Installation of Conduits	Rubber Tired Dozers	1	1.00	255	0.40
Removal of Poles	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Installation of Conduits	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Installation of Vaults	Rubber Tired Dozers	1	1.00	255	0.40
Installation of Vaults	Off-Highway Trucks	1	6.00	400	0.38
Installation of Vaults	Plate Compactors	1	6.00	8	0.43
Installation of Vaults	Pavers	1	6.00	125	0.42
Installation of Vaults	Cement and Mortar Mixers	1	4.00	9	0.56
Installation of Conduits	Off-Highway Trucks	1	6.00	400	0.38
Installation of Vaults	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Installation of Conduits	Plate Compactors	1	6.00	8	0.43
Installation of Conduits	Pavers	1	6.00	125	0.42
Installation of Conduits	Cement and Mortar Mixers	1	4.00	9	0.56
Removal of Poles	Cranes	1	4.00	226	0.29
Removal of Poles	Off-Highway Trucks	1	6.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Removal of Poles	6	15.00	0.00	3.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of Conduits	8	20.00	0.00	361.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of Vaults	7	18.00	0.00	90.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Installation of Vaults - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7653	0.0000	0.7653	0.4154	0.0000	0.4154			0.0000			0.0000
Off-Road	1.7252	16.5369	12.1551	0.0237		0.8427	0.8427		0.7978	0.7978		2,323.8447	2,323.8447	0.5742		2,335.9033
Total	**1.7252**	**16.5369**	**12.1551**	**0.0237**	**0.7653**	**0.8427**	**1.6080**	**0.4154**	**0.7978**	**1.2132**		**2,323.8447**	**2,323.8447**	**0.5742**		**2,335.9033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1237	1.4072	1.4173	4.4200e-003	0.1042	0.0198	0.1240	0.0285	0.0182	0.0467		430.7759	430.7759	3.1600e-003		430.8422
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0680	0.7513	2.1100e-003	0.1698	1.2400e-003	0.1710	0.0450	1.1500e-003	0.0462		164.4792	164.4792	7.1500e-003		164.6294
Total	**0.1824**	**1.4752**	**2.1686**	**6.5300e-003**	**0.2739**	**0.0211**	**0.2950**	**0.0735**	**0.0194**	**0.0929**		**595.2551**	**595.2551**	**0.0103**		**595.4716**

3.2 Installation of Vaults - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7653	0.0000	0.7653	0.4154	0.0000	0.4154			0.0000			0.0000
Off-Road	1.7252	16.5369	12.1551	0.0237		0.8427	0.8427		0.7978	0.7978	0.0000	2,323.8447	2,323.8447	0.5742		2,335.9033
Total	**1.7252**	**16.5369**	**12.1551**	**0.0237**	**0.7653**	**0.8427**	**1.6080**	**0.4154**	**0.7978**	**1.2132**	**0.0000**	**2,323.8447**	**2,323.8447**	**0.5742**		**2,335.9033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1237	1.4072	1.4173	4.4200e-003	0.1042	0.0198	0.1240	0.0285	0.0182	0.0467		430.7759	430.7759	3.1600e-003		430.8422
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0680	0.7513	2.1100e-003	0.1698	1.2400e-003	0.1710	0.0450	1.1500e-003	0.0462		164.4792	164.4792	7.1500e-003		164.6294
Total	**0.1824**	**1.4752**	**2.1686**	**6.5300e-003**	**0.2739**	**0.0211**	**0.2950**	**0.0735**	**0.0194**	**0.0929**		**595.2551**	**595.2551**	**0.0103**		**595.4716**

3.3 Installation of Conduits - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7695	0.0000	0.7695	0.4159	0.0000	0.4159			0.0000			0.0000
Off-Road	1.9248	18.5092	13.9077	0.0260		0.9824	0.9824		0.9264	0.9264		2,558.4266	2,558.4266	0.6473		2,572.0188
Total	**1.9248**	**18.5092**	**13.9077**	**0.0260**	**0.7695**	**0.9824**	**1.7519**	**0.4159**	**0.9264**	**1.3423**		**2,558.4266**	**2,558.4266**	**0.6473**		**2,572.0188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1653	1.8815	1.8950	5.9100e-003	0.1393	0.0265	0.1658	0.0381	0.0244	0.0625		575.9633	575.9633	4.2200e-003		576.0520
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0756	0.8348	2.3500e-003	0.1886	1.3800e-003	0.1900	0.0500	1.2800e-003	0.0513		182.7546	182.7546	7.9500e-003		182.9215
Total	**0.2306**	**1.9571**	**2.7297**	**8.2600e-003**	**0.3279**	**0.0279**	**0.3558**	**0.0881**	**0.0257**	**0.1138**		**758.7180**	**758.7180**	**0.0122**		**758.9736**

3.3 Installation of Conduits - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7695	0.0000	0.7695	0.4159	0.0000	0.4159			0.0000			0.0000
Off-Road	1.9248	18.5092	13.9077	0.0260		0.9824	0.9824		0.9264	0.9264	0.0000	2,558.4266	2,558.4266	0.6473		2,572.0188
Total	**1.9248**	**18.5092**	**13.9077**	**0.0260**	**0.7695**	**0.9824**	**1.7519**	**0.4159**	**0.9264**	**1.3423**	**0.0000**	**2,558.4266**	**2,558.4266**	**0.6473**		**2,572.0188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1653	1.8815	1.8950	5.9100e-003	0.1393	0.0265	0.1658	0.0381	0.0244	0.0625		575.9633	575.9633	4.2200e-003		576.0520
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0653	0.0756	0.8348	2.3500e-003	0.1886	1.3800e-003	0.1900	0.0500	1.2800e-003	0.0513		182.7546	182.7546	7.9500e-003		182.9215
Total	**0.2306**	**1.9571**	**2.7297**	**8.2600e-003**	**0.3279**	**0.0279**	**0.3558**	**0.0881**	**0.0257**	**0.1138**		**758.7180**	**758.7180**	**0.0122**		**758.9736**

3.4 Removal of Poles - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7883	0.0000	0.7883	0.4176	0.0000	0.4176			0.0000			0.0000
Off-Road	1.9093	18.8709	12.7187	0.0247		0.9851	0.9851		0.9277	0.9277		2,450.1227	2,450.1227	0.6241		2,463.2296
Total	**1.9093**	**18.8709**	**12.7187**	**0.0247**	**0.7883**	**0.9851**	**1.7734**	**0.4176**	**0.9277**	**1.3453**		**2,450.1227**	**2,450.1227**	**0.6241**		**2,463.2296**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1200e-003	0.0469	0.0472	1.5000e-004	3.4700e-003	6.6000e-004	4.1300e-003	9.5000e-004	6.1000e-004	1.5600e-003		14.3592	14.3592	1.1000e-004		14.3614
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0490	0.0567	0.6261	1.7600e-003	0.1415	1.0400e-003	0.1425	0.0375	9.6000e-004	0.0385		137.0660	137.0660	5.9600e-003		137.1912
Total	**0.0531**	**0.1036**	**0.6733**	**1.9100e-003**	**0.1449**	**1.7000e-003**	**0.1466**	**0.0385**	**1.5700e-003**	**0.0400**		**151.4252**	**151.4252**	**6.0700e-003**		**151.5526**

3.4 Removal of Poles - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7883	0.0000	0.7883	0.4176	0.0000	0.4176			0.0000			0.0000
Off-Road	1.9093	18.8709	12.7187	0.0247		0.9851	0.9851		0.9277	0.9277	0.0000	2,450.1227	2,450.1227	0.6241		2,463.2296
Total	**1.9093**	**18.8709**	**12.7187**	**0.0247**	**0.7883**	**0.9851**	**1.7734**	**0.4176**	**0.9277**	**1.3453**	**0.0000**	**2,450.1227**	**2,450.1227**	**0.6241**		**2,463.2296**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1200e-003	0.0469	0.0472	1.5000e-004	3.4700e-003	6.6000e-004	4.1300e-003	9.5000e-004	6.1000e-004	1.5600e-003		14.3592	14.3592	1.1000e-004		14.3614
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0490	0.0567	0.6261	1.7600e-003	0.1415	1.0400e-003	0.1425	0.0375	9.6000e-004	0.0385		137.0660	137.0660	5.9600e-003		137.1912
Total	**0.0531**	**0.1036**	**0.6733**	**1.9100e-003**	**0.1449**	**1.7000e-003**	**0.1466**	**0.0385**	**1.5700e-003**	**0.0400**		**151.4252**	**151.4252**	**6.0700e-003**		**151.5526**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.546125	0.066484	0.182879	0.120053	0.033988	0.004085	0.013389	0.012585	0.001893	0.008218	0.007984	0.000718	0.001600

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5283	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004
Unmitigated	0.5283	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.4661					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004
Architectural Coating	0.0622					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5283**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.1000e-004**	**1.1000e-004**	**0.0000**		**1.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.4661					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.1000e-004	1.1000e-004	0.0000		1.2000e-004
Architectural Coating	0.0622					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5283**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.1000e-004**	**1.1000e-004**	**0.0000**		**1.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation