

# San Mateo Clean Water Program: Wastewater Treatment Plant Upgrade and Expansion Project City of San Mateo

## Addendum to the San Mateo Clean Water Program Final Programmatic Environmental Impact Report

State Clearinghouse No. 2015032006

### 1.0 Introduction

This environmental document is an Addendum to the San Mateo Clean Water Program (CWP or Program) Final Programmatic Environmental Impact Report (Final PEIR) (State Clearinghouse No. 2015032006), adopted on June 6, 2016, by the City Council of the City of San Mateo (City). The Final PEIR analyzed the City's CWP, which is a series of projects to upgrade and increase the capacity of its wastewater treatment plant (WWTP) and sewer system. Program alternatives addressing both the conveyance and treatment of wastewater, were analyzed in the Final PEIR; the City adopted the In-System Storage Program Alternative.

The Program Alternative includes one or more underground flow equalization basins upstream from the Dale Avenue Pump Station, collection system improvements such as pipeline and pump station projects, and improvements at the existing WWTP. The PEIR included a Program-level review of three potential treatment methods at the WWTP (baseline treatment, conventional activated sludge treatment, or membrane bioreactor [MBR] treatment), and a Project-level review of a plant expansion involving construction of new headworks and primary clarifier facilities (the "Original Project"). The Project now consolidates the headworks, primary clarifiers, and membrane bioreactor secondary treatment facilities into a single project.

Since the adoption of the PEIR, conceptual planning and schematic design for the WWTP project has progressed. These refinements to the Original Project have been proposed (the "Revised Project") and are described in Section 5.2 below.

This Addendum is supported by additional analysis that was conducted for the WWTP based on the proposed refinements. The City prepared an Initial Study (IS) in March 2018 (see Attachment A) that provides a full analysis of the Revised Project. The purpose of this Addendum is to address the proposed refinements in the context of the PEIR, with the IS as supporting documentation. As demonstrated in this Addendum, the Final PEIR continues to serve as the document required under the California Environmental Quality Act (CEQA) for assessing the environmental impacts of the Revised Project.

### 2.0 Background

The City of San Mateo prepared the Final PEIR to address potentially significant environmental impacts resulting from the CWP. The range of potential environmental effects included aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gases, hazards and hazardous materials, hydrology and water quality, land use, population and housing, noise, public services,

recreation, transportation and traffic, and utilities. The Final PEIR found that the majority of impacts can be been mitigated to less than significant through implementation of mitigation measures. However, impacts with respect to noise were found to be significant and unavoidable after mitigation. In approving the Original Project, the City of San Mateo also adopted a Statement of Overriding Considerations and a Mitigation Monitoring or Reporting Program.

### 3.0 Purpose of Addendum

Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required [CEQA Guidelines Section 15162(c)]. The Revised Project, however, does require further discretionary approval. Accordingly, the lead agency must determine whether a Subsequent EIR is required for the Revised Project.

CEQA Guidelines Sections 15162 and 15164 set criteria for that determination. If the following criteria are all true, then a Subsequent EIR or MND is not required, and an Addendum is the appropriate document:

- No new significant impacts will result from the project or from new mitigation measures.
- No substantial increase in the severity of an environmental impact will occur.
- No new feasible alternatives or mitigation measures that would reduce impacts previously found not to be feasible have, in fact, been found to be feasible.

Based upon the analysis that was conducted in the IS (Attachment A), the refinements to the Original Project will not result in new significant impacts or substantially increase the severity of impacts previously identified in the Final PEIR; nor are there any previously infeasible alternatives that are now feasible. None of the factors set forth in Section 15162(a)(3) (new information of substantial importance) is present; therefore, an Addendum is appropriate. The City has prepared this Addendum to address the environmental effects of the Revised Project, as compared to the Original Project.

### 4.0 Conclusions

The conclusion of the analysis in this Addendum remain consistent with those made in the previously adopted PEIR. Specifically, based upon substantial evidence in the light of the whole record:

- No substantial changes are proposed to the Original Project that will require major revisions of the PEIR due to the involvement of new significant environment effects or a substantial increase in the severity of previously identified significant effects;
- No substantial changes have occurred with respect to the circumstances under which the Revised Project is undertaken that will require major revisions to the PEIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and
- No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the PEIR was adopted, shows that:
  - The Revised Project will have one or more significant effects not discussed in the PEIR;
  - Significant effects previously examined will be substantially more severe than shown in the PEIR;
  - No mitigation measures or alternatives previously found not be feasible would, in fact, be feasible, and would substantially reduce one or more significant effects of the Revised Project, but the project Applicant declines to adopt them.

## 5.0 Project Description

### 5.1 Project Overview

The Revised Project will meet the same objective in the Original Project to increase the WWTP's capacity for wet weather flow management to eliminate blending and comply with regulatory requirements, improve treatment reliability, and produce a higher-quality effluent.

The Project will utilize MBR technology and produce high-quality effluent, meeting California's Title 22 standards for recycled water use. The Project involves constructing new process facilities (headworks, primary treatment, four-stage biological nutrient removal/MBR process, biological and chemically enhanced treatment process and odor control) and upgrading/modifying existing facilities to support the new facilities, such as retrofit of the existing aeration basins to provide wet weather flow equalization storage onsite.

Facilities will be designed to handle influent flows of 21 million gallons per day (mgd) (maximum month). Peak wet weather flows of 78 mgd will be processed by the preliminary treatment facilities and then diverted to onsite equalization to reduce flows through the secondary treatment facilities to 60 mgd based on the outfall capacity. Odor control will consist of two separate abatement devices. Odorous air from the preliminary treatment processes (screening and grit removal and clarifiers), all of which will be enclosed, will be collected and treated utilizing a two stage bio scrubber and carbon adsorption system to control odors. Odor from the flow equalization tank will be treated by dosing with liquid iron salts. The Project will also include four new 750-kilowatt (kW) emergency diesel generators to allow treatment processes to continue operating during periods of power outages. Operation of the diesel generators will be limited to 50 hours per year, per engine for testing, maintenance, and reliability-related activities.

#### 5.1.1 Construction Traffic, Parking, and Staging

Construction traffic would access the Project site via J Hart Clinton Boulevard from U.S. Highway 101, and via East 3rd Avenue from Mariner's Island Boulevard. Approximately 250 construction workers and administration personnel may be at the site during construction, with a daily average of approximately 100 workers onsite for the duration of construction. Contractor staging and construction office trailers would be located within the Dale Avenue parcel, located west of the existing WWTP. Parking and equipment storage and staging would be on the Bayside/Joinville Park Extension, located east of Seal Slough and south of East 3rd Avenue; on an unused strip of land between Joinville Park Rd. and East 3rd Avenue; and on the Anchor Road parking lot.

The maximum construction traffic on any given day could include up to 280 workforce trips, and up to 80 heavy haul equipment trips for the delivery of concrete and equipment or removal of excavated material. The daily total of workforce and heavy haul trips is expected to reach a maximum of approximately 320 trips per day,<sup>1</sup> with an average of approximately 150 trips daily.

#### 5.1.2 Construction Schedule

Construction is expected to begin in fall 2018 and last through fall 2023 (approximately 5 years). The vast majority of work would be conducted Monday through Friday, between 7 a.m. and 7 p.m. However, some work may be required on the weekends and at night, and would only occur with prior approval by an authorized City representative.

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<sup>1</sup> Workforce and heavy haul trips are assumed to be round trips (includes both in and out).

## 5.2 Project Location and Setting

The Project site includes an empty parcel located at 2050 Detroit Drive, between Detroit Drive and Joinville Road (Detroit Drive parcel) north of the existing WWTP, and five parking/staging areas: the Bayfront parcels located northeast of the existing WWTP; the Dale Avenue parcel, located west of the existing WWTP; the Anchor Road parking area, located east of Seal Slough and north of East 3rd Avenue; an unused strip of land between Joinville Park Road and East 3rd Avenue; and the Bayside/Joinville Park Extension, located east of Seal Slough and south of East 3rd Avenue. The northernmost point of the Detroit Drive parcel is located at latitude 37°34'15.02"N, longitude 122°17'48.56"W.

## 5.3 Project Refinements Since PEIR Adoption

Since certification of the Final PEIR, design for the Project has progressed. The Revised Project consolidates the headworks, the primary clarifiers, and the membrane bioreactor secondary treatment facilities into a single project. Revisions to the WWTP project since release of the Final PEIR in Table 1 below.

**Table 1. Project Revisions**

Original Project	Revised Project
WWTP Facility Layout (Figure 2-8 from the Final PEIR showing conceptual layout of Project facilities)	WWTP Facility Layout (Figure 1 in Attachment A showing refined and consolidated layout of Project facilities)
<p>Construction information:</p> <ul style="list-style-type: none"> <li>• Schedule: Approximate 10-year construction duration</li> <li>• Staging areas for construction: Undefined (included Dale Avenue parcel and Bayfront parcels)</li> <li>• Air quality during construction: Estimated emissions of criteria pollutants from construction equipment based on conceptual-level equipment and traffic assumptions</li> <li>• Air quality for operation: Assumed replacement of unspecified number of standby generators</li> <li>• Traffic during construction: Estimated peak construction daily trips: 175</li> </ul>	<p>Construction Information:</p> <ul style="list-style-type: none"> <li>• Schedule: Approximate 5-year construction duration</li> <li>• Staging areas for construction: Five potential locations identified, including the Bayfront parcels located northeast of the existing WWTP; the Dale Avenue parcel, located west of the existing WWTP; the Anchor Road parking area, located east of Seal Slough and north of East 3rd Avenue; an unused strip of land between Joinville Park Road and East 3rd Avenue; and the Bayside/Joinville Park Extension, located east of Seal Slough and south of East 3rd Avenue). Additional parking in existing parking lots within San Mateo could be utilized by the Contractor during the construction phase if approved by City (see Figure 2 in Attachment A)</li> <li>• Air quality during construction: Estimated emissions based on more realistic equipment schedules and traffic assumptions resulted in changes to criteria pollutants</li> <li>• Air quality for operation: Four new standby generators for backup power of facilities</li> <li>• Traffic during construction: Estimated peak construction daily trips: 320</li> </ul>

## 6.0 Environmental Analysis

The following comparative analysis has been undertaken pursuant to CEQA Guidelines Sections 15162 and 15164, to provide the City with the factual basis for determining whether any changes in the Original Project, changes in circumstances, or new information since the Final PEIR was adopted require preparation of a Subsequent EIR.

The refinements to the Original Project under the Revised Project are described in Section 5.3, above. The environmental analysis provided in the PEIR remains current and applicable to the Revised Project in areas unaffected by the refinements for the environmental topics, as listed below:

- **Aesthetics:** The proposed refinements would not result in additional impacts to aesthetic resources beyond those identified in the Final PEIR. The refined and consolidated WWTP facility layout associated with the Revised Project would retain a similar site configuration and would not substantially alter the visual quality of the site. Proposed structures would conform with the City's Municipal Code and General Plan with respect to building height and bulk for the Detroit Drive parcel.
- **Air Quality:** The proposed refinements would result in similar impacts to air quality as those identified in the PEIR. Construction durations and schedule differ from the Original Project in that the Revised Project would be constructed over a shorter period (approximately 5 years versus a 10-year duration). However, the estimated emissions that would be generated over the duration of construction of the Revised Project would be similar to, or lower than, emissions that were previously estimated for the Original Project.

As part of the Revised Project, four new emergency diesel generators would be installed and are estimated to run up to approximately 50 hours per year per engine and would not represent a significant new source of criteria pollutants. Operation of the Revised Project is expected to emit criteria pollutants; however, emissions are estimated to be equivalent to or less than existing plant operational emissions. New facilities would result in new odor sources; however, new facilities include odor control systems to reduce the potential for odor-related impacts when compared to current conditions.

Notwithstanding the changes in the emissions estimates for the Revised Project, impacts to air quality would remain insignificant, with no new mitigation measures required.

- **Biological Resources:** The proposed refinements would not result in new or additional impacts to biological resources beyond those identified in the PEIR.

Biological surveys were conducted for the new parking/staging areas. Consistent with previous surveys of the Detroit Drive, Dale Avenue, and Bayfront parcels, the survey concluded that staging areas do not contain suitable habitat to support special-status species.

As was the case for the Original Project, impacts would be less than significant with the mitigation measures included as part of the Project. No new mitigation measures are required for the proposed refinements.

- **Cultural Resources:** The proposed refinements would not result in additional impacts to cultural resources beyond those identified in the PEIR. Cultural resources surveys and literature searches were conducted for the new parking/staging areas, and concluded that there are no known resources within the parking/staging areas. The mitigation measures in the PEIR as part of the Original Project would be applicable and necessary to reduce any potential impacts under the Revised Project. As was the case for the Original Project, impacts would be less than significant with the mitigation measures included as part of the Project. No new mitigation measures are required for the proposed refinements.
- **Geology and Soils:** The proposed refinements would not result in substantially different geophysical impacts beyond those identified in the PEIR. Geology- and soil-related impacts of the Revised Project would not deviate from the Project analyzed in the PEIR, and the conclusions of the PEIR remain valid. Compliance with applicable regulations and mitigation measures identified in the PEIR will continue to reduce geotechnical concerns to a less-than-significant level. No new mitigation measures are required for the proposed refinements.

- Greenhouse Gas Emissions:** The proposed refinements would not result in additional impacts with respect to greenhouse gas (GHG) emissions beyond those identified in the PEIR. Although the duration and Project construction schedule differ with the Revised Project, over the life of the Project, direct GHG emissions associated with construction and indirect emissions associated with operations would be within the emissions estimated in the Final PEIR. Electrical consumption for operation of the Revised Project is expected to result in an increase in indirect GHG emissions; while similar to the impacts that were described in the PEIR, the facility will use electricity from the California's power grid that meets the Renewables Portfolio Standard consistent with the AB32 GHG and SB 32 GHG emission reduction goals, and the latest strategies for achieving the GHG reduction goals in the 2017 Scoping Plan Update (ARB, 2017). Therefore, emissions associated with electrical usage for the Project are expected to decrease in future years, which would lessen the actual emissions from operation of the Project.

As was the case for the Original Project, impacts would be less than significant with the mitigation measures included as part of the Revised Project. No new mitigation measures are required for the proposed refinements.

- Hazards and Hazardous Materials:** The Revised Project would not increase risks related to hazards or hazardous materials relative to the Original Project. The proposed refinements would require mitigation to address potential impacts associated with asbestos and lead, and emergency services access. Given the similarity in overall construction activities and operational characteristics to the Original Project, the Revised Project would not result in new or greater impacts in this regard. No new mitigation measures are required for the proposed refinements.
- Hydrology and Water Quality:** The Revised Project would be required, as under the Original Project, to comply with all applicable water-quality regulations during and following construction activities. As is the case with the Original Project, compliance with stormwater regulations and mitigation measures would not significantly degrade water quality. No new mitigation measures are required for the proposed refinements.
- Land Use and Planning:** The proposed refinements will not result in additional impacts to land use and planning beyond those identified in the PEIR. The zoning designation for the Detroit Drive parcel (including the staging area), Bayfront parcel, Anchor Road, and the Bayside/Joinville Park Extension parking/staging areas is Shoreline (S) and for the Dale Avenue parcel, the zoning is Open Space (OS). The PEIR includes Mitigation Measure 11-2, requiring the project to obtain a special use permit for construction of the WWTP. Temporary use permits or other approvals will be obtained for use of the parking/staging areas, as necessary.

As was the case for the Original Project, impacts would be less than significant with the mitigation measures included as part of the Revised Project. No new mitigation measures are required for the proposed refinements.

- Noise:** The Revised Project would not result in additional impacts due to noise or vibration beyond those identified in the PEIR. The PEIR concluded that there would be significant and unavoidable impacts to noise from construction activities during the expected 10-year construction duration of the Original Project. The expected construction duration for the Revised Project will be significantly reduced, approximately 5 years, reducing the amount of time sensitive receptors would be exposed to high levels of construction noise. However, it is expected that receptors will still be subject to periodic high levels of noise and/or vibration during construction activities, as the methodology would be similar to what was included in the PEIR.

While mitigation would still be necessary to address short-term noise increases in the Project area and for expected operational impacts, no new mitigation measures were identified for the Revised Project.

- **Population and Housing:** As is the case for the Original Project, the Revised Project would not have any effect on population, housing, or employment in the City or the region at large. No adverse impacts would occur in this regard. No new mitigation measures are required for the proposed refinements.
- **Public Services:** The Revised Project would not result in additional impacts to public services beyond those identified for the Original Project in the Final PEIR. The Revised Project would require the closure of the same access routes as described in the Final PEIR; however, the duration of the closures would be considerably shorter than the previously expected duration.

No new mitigation measures are required for the proposed refinements.

- **Recreation:** The proposed refinements will not result in additional impacts to recreation beyond those identified in the Final PEIR. As described under Public Services, the Revised Project would require the closure of the same access routes as described in the PEIR; however, the duration of the closures would be considerably shorter than the previously expected duration.

The use of the Anchor Road parking area for construction worker access would not hinder the use by the general public, and would cease upon completion of Project construction. The pedestrian and bike trail access route for Bayside/Joinville park may experience temporary closures to allow construction vehicles to access the staging area south of East 3rd Avenue; however, the pedestrian and bike trail would have a barricade installed down the center of the trail that would establish a dedicated lane to protect users from construction vehicles and allow the trail to remain open during construction. While mitigation would still be necessary to ensure pedestrian and bicycle access around the WWTP Site during construction, no new mitigation measures are required for the Revised Project.

- **Transportation/Traffic:** The proposed refinements will not result in additional impacts transportation/traffic beyond those identified in the Final PEIR. Assumptions used for the traffic analysis prepared for the Revised Project (conducted as part of the IS), include revisions to construction vehicle estimates. Peak daily construction trips under the Revised Project are expected to be a maximum of approximately 320 trips per day, with an expected daily average of 150 trips for the duration of the 5-year construction period (Lenz, 2018, Pers. Comm.), and includes heavy haul trips for the delivery of concrete and equipment, removal of excavated material, and workforce trips. During periods of peak construction, construction workers would park offsite, such as the Anchor Road parking area. A portion of the parking area will dedicated for construction worker vehicles commuting to the Project site; however, some portion of the parking lot will remain open for public use.

As was the case for the Original Project, construction impacts related to emergency access and evacuation and through traffic would be less than significant with the mitigation measures included as part of the Project. No new mitigation measures are required for the proposed refinements.

- **Utilities and Service Systems:** The Revised Project would not require or result in the construction or expansion of any public utilities beyond those required for the Original Project. Temporary short-term and operational demands on public utilities or other infrastructure would not measurably change under the Revised Project and, therefore, impacts would be less than significant. No new mitigation measures are required for the proposed refinements.
- **Mandatory Findings of Significance:** The potential impacts of the Revised Project with regard to biological resources, cultural resources, and direct and indirect effects on human beings would be

essentially the same as under the Original Project. Because impacts under the Revised Project would be similar to or reduced relative to the Original Project, no new mitigation measures are required.

## 7.0 Conclusions

Based on the discussion above and the information presented in the Initial Study, the proposed refinements to the Original Project would not result in a measurable increase in environmental impacts over what was previously analyzed in the Final PEIR. Although the Revised Project entails such refinements, no new significant impacts have been identified, nor is the severity of newly identified impacts substantially greater than the conclusions of the Final PEIR. Based upon this substantial evidence, the Revised Project would not result in a substantial change in the conclusions and analysis included in the Final PEIR. As a result, an Addendum to the Final PEIR is appropriate to meet the requirements of CEQA.

## 8.0 References

California Air Resources Board (ARB). 2017. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January.

Lenz, Doug/Sundt Construction, Inc. 2018. Personal communication (via email) with Heather Waldrop/CH2M. February 6.



Attachment A  
Initial Study – San Mateo Clean Water  
Program: Wastewater Treatment Plant  
Upgrade and Expansion Project



# Initial Study - San Mateo Clean Water Program: Wastewater Treatment Plant Upgrade and Expansion Project

City of San Mateo

March 2018





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# Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
BAAQMD	Bay Area Air Quality Management District
BioCET	biological and chemically enhanced treatment
BMP	best management practice
BNR	biological nutrient removal
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFP	Classification of Fully Protected
City	City of San Mateo
CO	carbon monoxide
CWP	Clean Water Program
dBA	A-weighted decibels
GHG	greenhouse gas
H <sub>2</sub> S	hydrogen sulfide
HC	hydrocarbon
IS	Initial Study
ISS	In-System Storage
kW	kilowatt
lb/day	pounds per day
lb/hour	pounds per hour
LOS	level of service
MBR	membrane bioreactor
mgd	million gallons per day
MMgal/day	million gallons per day
MUTCD	<i>California Manual of Uniform Traffic Control Devices</i>
NMHC	non-methane hydrocarbon
NO <sub>x</sub> /NO <sub>2</sub>	oxides of nitrogen as nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
OS	Open Space
OSHA	Occupational Safety and Health Administration
PEIR	Programmatic Environmental Impact Report
PM <sub>10</sub>	particulate matter with an aerodynamic diameter equal to or less than 10 micrometers

ACRONYMS AND ABBREVIATIONS

PM2.5	particulate matter with an aerodynamic diameter equal to or less than 2.5 micrometers
POC	precursor organic compounds
Program	Clean Water Program
REC	recognized environmental condition
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SMPD	San Mateo Police Department
SO <sub>2</sub>	sulfur dioxide
SWPPP	stormwater pollution prevention plan
Tons/yr	tons per year
TMP	Traffic Management Plan
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WWTP	wastewater treatment plant





# Project Information

## 1.1 Project Title

San Mateo Clean Water Program: Wastewater Treatment Plant Upgrade and Expansion Project (Project)

## 1.2 Lead Agency Name and Address

City of San Mateo Public Works  
330 W. 20th Avenue  
San Mateo, CA 94403

## 1.3 Contact Person and Phone Number

Brad Underwood/Director, Public Works (650) 522-7300

## 1.4 Project Location

The Project is in the City of San Mateo (City), in San Mateo County, California. The Project site includes an empty parcel located at 2050 Detroit Drive, between Detroit Drive and Joinville Road (Detroit Drive parcel) north of the existing wastewater treatment plant (WWTP), and five potential parking/staging areas: the Bayfront parcels located northeast of the existing WWTP; the Dale Avenue parcel, located west of the existing WWTP; the Anchor Road parking area, located east of Seal Slough and north of East 3rd Avenue; an unused strip of land between Joinville Park Road and East 3rd Avenue; and the Bayside/Joinville Park Extension, located east of Seal Slough and south of East 3rd Avenue (see Figure 2). The northernmost point of the Detroit Drive parcel is located at latitude 37°34'15.02"N, longitude 122°17'48.56"W.

## 1.5 General Plan Designation

Public facility (Detroit Drive parcel, Anchor Road parking area, and Bayside/Joinville Park Extension)  
Regional/community commercial (Bayfront parcels)  
Single-family residential (Dale Avenue parcel)

## 1.6 Zoning

(S) – Shoreline (Detroit Drive parcel, Bayfront parcels, Anchor Road parking area, and Bayside/Joinville Park Extension)

(OS) – Open Space (Dale Avenue parcel)

## 1.7 Description of Project

### 1.7.1 Background

The Wastewater Treatment Plant Upgrade and Expansion Project (“Project”) is part of the City’s Clean Water Program (CWP or Program), which was evaluated in compliance with the California Environmental Quality Act (CEQA) in the 2016 Final Programmatic Environmental Impact Report (2016 Final PEIR) (City of San Mateo, 2016), (SCH. 2015032006). The Project is one component of the CWP In-System Storage (ISS) Program alternative that was selected as the City’s preferred alternative. As part of the analysis for the ISS alternative, the document included a Program-level review of three potential treatment methods

(baseline treatment, conventional activated sludge treatment, or membrane bioreactor [MBR] treatment), and a Project-level review of a plant expansion involving construction of new headworks and primary clarifier facilities. The Project consolidates the headworks, primary clarifiers, and membrane bioreactor secondary treatment facilities into a single project.

This Initial Study (IS) has been developed to assess localized impacts that may occur from the construction and operation of the Project. This IS incorporates appropriate information previously included in the 2016 Final PEIR and expands upon resource area analysis, where appropriate.

## 1.7.2 Project Details

The Project will increase the WWTP's capacity for wet weather flow management to eliminate blending and comply with regulatory requirements, improve treatment reliability, and produce a higher-quality effluent.

The Project will utilize membrane bioreactor (MBR) technology and produce high-quality effluent, meeting California's Title 22 standards for recycled water use. The Project involves constructing new process facilities (headworks, primary treatment, five-stage biological nutrient removal (BNR)/MBR process, biological and chemically enhanced treatment (BioCET) process) and upgrading/modifying existing facilities to support the new facilities, such as reconfiguration of the existing aeration basins to provide flow equalization storage onsite, and odor control (see Figure 1; all figures are located at the end of this section).

The innovative BioCET process involves dual-use clarifiers and a biological contact tank to provide secondary treatment of wet weather flows to eliminate blending and meet National Pollutant Discharge Elimination System (NPDES) requirements. The new facilities will be designed to handle influent flows of 21 million gallons per day (mgd) (maximum month). Peak wet weather flows of 78 mgd will be processed by the preliminary treatment facilities and then diverted to onsite equalization to reduce flows to 60 mgd based on the outfall capacity. An alternate operating strategy and chemical addition will allow treatment of peak flows up to 60 mgd through primary and secondary treatment. Odor control will consist of two separate abatement devices. Odor from the headworks building and processes and clarifiers, all of which will be enclosed, will be treated utilizing two bio scrubbers and two carbon absorbers to control odors from the new headworks and the dual-use clarifiers. Odor from the flow equalization tank will be treated by dosing with liquid iron salts. The Project will also include four new 750-kilowatt (kW) diesel-fueled emergency generators to allow treatment processes to continue during periods of power outages. Operation of the diesel generators will be limited to 50 hours per year, per engine for testing, maintenance, and reliability-related activities.

In addition to the process facilities, a new administration building will be constructed to house WWTP operations and maintenance staff as well as a new main control room and laboratory. A new warehouse will be provided on the existing WWTP Site to allow for consolidation of shipping, receiving, and storage of parts, materials, and supplies required for WWTP maintenance.

Project operation would occur largely as it was described in the 2016 Final PEIR (see 2016 Final PEIR Section 2.3.2).

## 1.7.3 Project Construction

Construction is expected to take approximately 5 years. All construction activities would take place within the Detroit Drive parcel and the existing WWTP footprint. Construction details, such as construction traffic, parking, material staging (see Figure 2) and construction schedule, are provided below.

### 1.7.3.1 Facility Demolition

Some of the facilities within the existing WWTP will be demolished and removed from the site to accommodate construction equipment and vehicles. Once the new facilities are complete and

operational, additional facilities will be decommissioned and removed. Those facilities include retired anaerobic digesters, electric shop, effluent filters, sludge thickener number 3, primary sludge pump room and utility building, influent junction box, biofilter, primary clarifiers, and secondary clarifiers (see Figure 3).

The existing compressed natural gas facility would be relocated within the existing WWTP footprint to accommodate the new administration building.

#### 1.7.4 Construction Traffic, Parking, and Staging

Construction traffic would access the Project site via J Hart Clinton Boulevard from U.S. Highway 101, and via East 3rd Avenue from Mariner’s Island Boulevard. Approximately 250 construction workers and Project administration personnel may be at the Project site during construction, with a daily average of approximately 100 workers onsite for the duration of construction. The City will designate one or more dedicated parking areas for construction workers. The City plans to develop a temporary agreement for use of another site, such as the Anchor Road parking lot north of 3rd Avenue, managed by City of San Mateo Parks and Recreation (see Figure 2). Contractor staging and construction office trailers would be located within the Dale Avenue parcel, located west of the existing WWTP. Parking and equipment storage and staging would be on the Bayside/Joinville Park Extension, located east of Seal Slough and south of East 3rd Avenue; an unused strip of land between Joinville Park Road and East 3rd Avenue; and on the Anchor Road parking lot.

Activities requiring maximum workers and truck traffic include site excavation, material hauling, and concrete pours. The maximum construction traffic on any given day could include up to 280 workforce trips, and up to 80 heavy haul equipment trips for the delivery of concrete and equipment or removal of excavated material. The daily total of workforce and heavy haul trips is expected to reach a maximum of approximately 320 trips per day,<sup>1</sup> with an average of approximately 150 trips daily.

#### 1.7.5 Shoring Installation; Site excavation; and Dewatering

Shoring will be required to support excavation. Shoring would consist of sheet piles, soldier pile shoring installed with pile drivers, or cutter soil mixing. Site excavation would occur within the Detroit Drive parcel, up to approximately 20 feet below ground surface.

Prior to the start of excavation, dewatering wells would be installed, as needed, to reduce groundwater intrusion during excavation. The wells are intended to lower the groundwater as the excavation proceeds. Water collected from the dewatering process would be disposed of in accordance with State and federal requirements.

#### 1.7.6 Removal of Excavated Material

Construction would require removal and disposal of a large quantity of material. Up to 60 percent of the construction debris would be reused or recycled,<sup>2</sup> in accordance with Title 15 of the City’s municipal code. Remaining construction waste will be disposed of in an appropriate, licensed facility.

#### 1.7.7 Site Restoration

All areas disturbed by construction activities will be restored in compliance with applicable codes, ordinances, and plans. When feasible, existing walkways, landscape materials, and landscape irrigation systems will be preserved and protected. New groundcovers, shrubs, trees, and irrigation systems would be provided, as necessary. Existing parking areas that are disturbed or removed to accommodate construction would be restored or replaced as necessary.

<sup>1</sup> Workforce and heavy haul trips are assumed to be round trips (includes both in and out).

<sup>2</sup> The 60% recycle rate does not apply to excavated material.

## 1.7.8 Construction Schedule

The vast majority of work would be conducted Monday through Friday, between 7 a.m. and 7 p.m. However, some work may be required outside of the regular work hours approved by the City's Municipal Code, and would only occur with prior approval by an authorized City representative.

Phase 1 construction (site preparation) is expected to begin in fall 2018 and last approximately 1 year. Phase 1 includes the demolition of retired facilities on the existing WWTP and relocation of some existing facilities to accommodate construction activities; and site preparation including mass excavation and perimeter shoring system. Phase 2 construction (pile installation and under slab utilities) is expected to start in Spring 2019 and end in spring 2020. Phase 3 (construction of the new facilities) is expected to begin in fall 2019 and end in 2023, after the new treatment processes being fully functional. Peak flow equalization basin construction (also part of Phase 3) is assumed to start when commissioning of the new treatment facilities is complete. A schedule of major construction phases is provided in Table 1.

**Table 1. Overview of Project Schedule**

*San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

Major Milestone	Tentative Dates
Site Mobilization	Fall 2018
Phase 1 Construction	Fall 2018 – Summer 2019
Demolition of retired Existing Facilities (as part of Phase 1)	Fall 2018 – Spring 2019
Phase 2 Construction	Spring 2019 – Spring 2020
Phase 3 Construction and Plant Commissioning	Fall 2019 – Fall 2023
Demobilization	Fall 2023

## 1.8 Surrounding Land Uses and Setting

The Detroit Drive parcel is currently undeveloped. Surrounding land uses immediately adjacent to the Detroit Drive parcel include a self-storage business west of the Project site, the existing WWTP to the south, equipment parking and commercial use to the east, and East 3rd Avenue to the north.

The vacant Dale Avenue parcel is situated southwest of the existing WWTP, bordered by a residential neighborhood, the existing WWTP, and the aforementioned self-storage business.

The Anchor Road parking area is currently being used as a parking lot for recreational access to Little Coyote Point. The Bayside/Joinville Park Extension east of Seal Slough on the south side of East 3rd Avenue is currently unused. Land uses surrounding the Bayside/Joinville Park Extension include a pedestrian and bike trail to Bayside/Joinville park on the south, Seal Slough to the west, East 3rd Avenue to the north, and Anchor Road to the east.

## 1.9 Other Public Agencies Whose Approval Is Required

The following permits and approvals are required for construction of the Project:

- National Pollutant Discharge Elimination System (NPDES) Permit/Waste Discharge Requirements– Regional Water Quality Control Board (RWQCB)
- General Construction Stormwater Permit – RWQCB
- Authority to Construct/Permit to Operate – Bay Area Air Quality Management District (BAAQMD)
- Authorization from Bay Conservation Development Commission



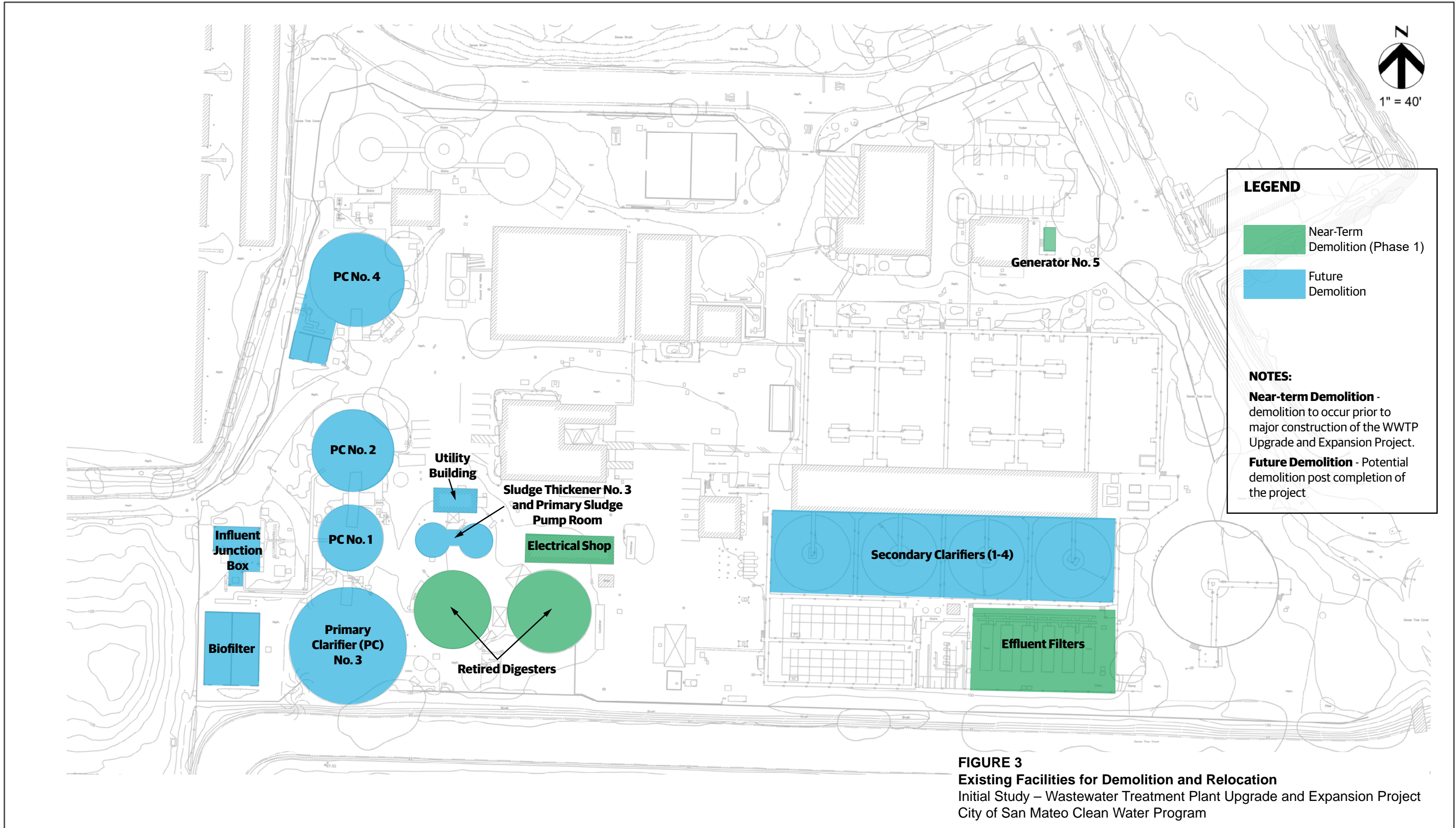
**FIGURE 1**

**Project Layout**

Initial Study – Wastewater Treatment Plant Upgrade and Expansion Project  
 City of San Mateo Clean Water Program



**FIGURE 2**  
**Project Parcels**  
Initial Study – Wastewater Treatment Plant Upgrade and Expansion Project  
City of San Mateo Clean Water Program



**LEGEND**

- Near-Term Demolition (Phase 1)
- Future Demolition

**NOTES:**

- Near-term Demolition** - demolition to occur prior to major construction of the WWTP Upgrade and Expansion Project.
- Future Demolition** - Potential demolition post completion of the project

**FIGURE 3**  
**Existing Facilities for Demolition and Relocation**  
 Initial Study – Wastewater Treatment Plant Upgrade and Expansion Project  
 City of San Mateo Clean Water Program





# Initial Study/Environmental Impacts Checklist

<b>I. AESTHETICS.</b> Would the proposed project:				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion:</b></p> <p>There are no officially designated scenic vistas toward the Project site. However, there are viewpoint locations that provide expansive, relatively long-distance (vista) views, within which the Project site is visible. The 2016 Final PEIR (see Section 3.5) determined that, for certain viewpoints, the visual character of the Project site would be somewhat reduced by expansion of the WWTP onto the Detroit Drive parcel, particularly because the proportion of natural features in the close-in views would decrease compared with the presence of built facilities. From most viewpoints assessed, however, the visual quality would not be substantially affected. All proposed structures would conform with the City's Municipal Code and General Plan with respect to building height and bulk for the Detroit Drive parcel.</p> <p>During construction, vehicles and equipment would be visible within the entire Project site, including the five potential parking/staging areas by Bayside/Joinville park trail users. Views will be temporary and the parking/staging sites will be restored once construction is completed. It is expected that occasional nighttime work will be necessary, requiring lighting that could temporarily increase night lighting at the Detroit Drive parcel. It is also expected that lighting on the new facility would increase ambient night lighting, and could create new sources of nighttime glare.</p> <p>The 2016 Final PEIR concluded that, while the majority of visual effects of the Project would be less than significant, the document included <b>Mitigation Measures 3-1, 3-3a, and 3-3b</b>, which would further reduce impacts to a less-than-significant level.</p> <p>The Project is within the scope of the Project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new</p>				

headworks projects, and would not result in new impacts to or require additional mitigation for visual resources.

**Mitigation Measures:**

The following mitigation measures from Section 3.6 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 3-1. Obtain design review approval.**

The Public Works Department is currently working with the Planning Department to obtain a Special Use permit for the upgrade and expansion Project. Through this process, the Planning Department will conduct design review and approval, ensuring that the Project is constructed in accordance with approved drawings and, as applicable, special use permit conditions; that landscaping for the Project is done consistent with an architectural basis of design to provide coherent materials use and finishes, design features, and landscaping that support an overall design theme and identity; and that building heights are within the limitations of the height requirements established by the City's General Plan.

**Mitigation Measure 3-3a. Design lighting to minimize impacts on adjacent areas.**

**Construction Lighting.** Prior to site mobilization, the construction manager shall confirm that lighting for construction of WWTP facilities is used in a manner that minimizes potential night lighting impacts, as follows:

- a) All lighting shall be of minimum necessary brightness consistent with worker safety.
- b) All fixed position lighting shall be shielded, hooded, and directed downward to minimize backscatter to the night sky and prevent light trespass (direct lighting extending outside the boundaries of the construction area).
- c) Where feasible and safe, lighting shall be turned off when not in use, and motion detectors shall be used.
- d) A lighting complaint resolution form shall be maintained by construction management to record all lighting complaints received and to document the resolution of that complaint.
- e) All construction related lighting shall be completely shielded or screened so it is not visible to residents east and south of the WWTP with direct views of the site.

**Project Operation Lighting.** Prior to the start of operation of each new facility, the construction contractor shall design and install new permanent lighting for the facility such that: light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the Project, the vicinity, and the nighttime sky is minimized. To meet these requirements, the City or its design contractor shall confirm the following:

- a) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the facility boundary.
- b) All lighting shall be of minimum necessary brightness consistent with worker safety.
- c) Where feasible and safe, lighting shall be kept off when not in use.
- d) A lighting complaint resolution form shall be used by WWTP operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the onsite compliance file.

**Mitigation Measure 3-3b. Provide glare-reducing structure surface painting and treatment.**

New or altered structures visible to the public shall be painted or treated such that their colors minimize visual intrusion and contrast by blending with the landscape; their surfaces do not create glare; and they are consistent with local laws, ordinances, regulations, and standards.

Prior to the start of construction that would be visible to the public, the construction contractor shall submit a structure surface painting and treatment plan into the City's SPAR process, as specified in Title 27.08.030 of the City's Zoning Ordinance (City of San Mateo, 2015), and to specifications established during the SPAR process. The treatment plan shall include all information required by the SPAR process, including the following:

- a) Specification of the treatment proposed for use on individual Project structures, including structures treated during manufacture.
- b) A list of each major project structure specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation).
- c) A procedure to maintain proper painting and treatment for the life of the Project.

**II. AGRICULTURE AND FORESTRY RESOURCES.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Involve other changes in the existing environment which, because of their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Discussion:</b> There is no agriculture land, forestland, or timberland on or adjacent to the Project site.				
<b>III. AIR QUALITY.</b> Would the proposed project:				
	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Discussion:</b> The Project is in the City of San Mateo, in San Mateo County, which is part of the BAAQMD. The area is currently designated as nonattainment for ozone and nonattainment for particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers (PM <sub>2.5</sub> ) under the National Ambient Air Quality Standards (NAAQS) and nonattainment for ozone, particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM <sub>10</sub> ) and PM <sub>2.5</sub> under the California Ambient Air Quality Standards (CAAQS) (BAAQMD, 2017). The area is designated as attainment/unclassified for all other pollutants. Assumptions used for the construction-related air quality analysis include the same equipment types that were used to estimate emissions in the 2016 Final PEIR (see Appendix B in the 2016 Final PEIR). Construction durations and schedule differ from the 2016 Final PEIR, in that the Project would be constructed over a shorter period (approximately 5 years for the Project versus the 10-year duration that was indicated for the WWTP in the 2016 Final PEIR). Daily emissions that might occur under worst-case assumptions during construction of the WWTP are presented in Table 2 below. The 2016 Final PEIR provided an evaluation of construction emissions based on a worst-case scenario, because a detailed schedule of construction for all the individual projects associated with the Program Alternatives had not yet been developed. Table 2 updates those estimates based on the Revised Project data. The Revised Project worst-case estimates show construction emissions are generally consistent with those for the original project (see Table 4-8 in the 2016 Final PEIR), with exception of construction year 2019, which shows a greater amount of NO <sub>2</sub> emissions. Assumptions used to estimate construction emissions are provided in Attachment 1.				

**Table 2. Estimated Worst-Case Daily Construction Emissions***San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

	<b>ROG (lb/day)</b>	<b>CO (lb/day)</b>	<b>NO<sub>2</sub> (lb/day)</b>	<b>SO<sub>2</sub> (lb/day)</b>	<b>PM<sub>10</sub> (lb/day)</b>	<b>PM<sub>2.5</sub> (lb/day)</b>
2018	4.91	34.89	58.10	0.10	2.66	2.30
2019	5.14	39.84	76.71	0.18	3.16	2.39
2020	5.26	53.21	68.14	0.21	3.65	2.63
2021	2.75	37.19	33.14	0.16	2.53	1.54
2022	1.10	14.89	10.49	0.06	0.88	0.55
2023	0.06	3.15	0.53	0.02	0.29	0.12

Notes:

ROG = reactive organic gases\*

CO = carbon monoxide

NO<sub>2</sub> = nitrogen oxideSO<sub>2</sub> = sulfur dioxidePM<sub>10</sub> = particulate matter with an aerodynamic diameter equal to or less than 10 micrometers\*\*PM<sub>2.5</sub> = particulate matter with an aerodynamic diameter equal to or less than 2.5 micrometers\*\*

Lb/day = pounds per day

\*The 2016 Final PEIR presented this data as VOC (volatile organic compound) however the data is being reported as "ROG" in conformance with BAAQMD threshold guidelines.

\*\* The 2016 Final PEIR presented two data sets for PM<sub>10</sub> and PM<sub>2.5</sub> (fugitive dust and fugitive exhaust). This report provides the construction exhaust emissions only in conformance with BAAQMD threshold guidelines. Fugitive dust resulting from the Project are expected to be negligible.

Notwithstanding these changes, the most recent BAAQMD CEQA Guidelines that were adopted in May 2017 (after certification of the Final PEIR) suggest an analysis based on estimated average-daily emissions, not worst-case daily emissions. The 2017 BAAQMD CEQA Guidelines provide quantitative thresholds of significance for construction-related emissions. Table 3 shows the average daily emissions that are expected to occur for all years of construction.

**Table 3. Estimated Average Daily Construction Emissions***San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

	<b>ROG (lb/day)</b>	<b>CO (lb/day)</b>	<b>NO<sub>2</sub> (lb/day)</b>	<b>SO<sub>2</sub> (lb/day)</b>	<b>PM<sub>10</sub> (lb/day)</b>	<b>PM<sub>2.5</sub> (lb/day)</b>
BAAQMD Threshold	<b>54</b>	--	<b>54</b>	--	<b>82</b>	<b>54</b>
2018	1.78	13.84	21.67	0.04	1.05	0.86
Exceeds Threshold?	No	N/A	No	N/A	No	No
2019	2.89	22.63	46.11	0.12	1.85	1.35
Exceeds Threshold?	No	N/A	No	N/A	No	No
2020	2.01	23.52	28.97	0.11	1.71	1.06
Exceeds Threshold?	No	N/A	No	N/A	No	No
2021	1.44	21.70	18.30	0.10	1.54	0.87
Exceeds Threshold?	No	N/A	No	N/A	No	No
2022	0.50	7.11	4.61	0.03	0.50	0.28
Exceeds Threshold?	No	N/A	No	N/A	No	No
2023	0.04	2.18	0.36	0.01	0.20	0.08
Exceeds Threshold?	No	N/A	No	N/A	No	No

-- = No established threshold

N/A = Not Applicable

Thus, under the significance determination criteria outlined in the BAAQMD CEQA guidelines, the estimated construction emissions for the Revised Project shown in Table 3 do not exceed the thresholds of significance, resulting in a less than significant impact to Air Quality.

Additionally, similar to the evaluation presented in Section 4.4 of the 2016 Final PEIR, air quality impacts resulting from construction activities would be temporary. Additionally, control measures listed in the BAAQMD CEQA guidelines (BAAQMD, 2017) would be implemented during construction activities (**Mitigation Measure 4-1** from the 2016 Final PEIR) to further reduce impacts from construction activity, including fugitive dust, and impacts would be less than significant.

Vehicle and equipment use for Project operations would be similar to current operations, and would not result a significant source of criteria pollutants.

Four new 750-kW Caterpillar diesel-fueled emergency generators would be installed, and each is estimated to run up to maximum of 50 hours per year for testing and maintenance. Estimated annual operational emissions associated with the four emergency generators are presented in Table 4.

**Table 4. Estimated Annual Operational Emissions for the Four New Diesel-Fueled Emergency Generators**  
*San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

	CO (tons/yr)	NO <sub>x</sub> (tons/yr)	HC (tons/yr)	PM <sub>10</sub> /PM <sub>2.5</sub> (tons/yr)
Total Annual Emissions for 4 Emergency Generators <sup>1</sup>	0.28	0.97	0.02	0.02
BAAQMD Threshold	N/A <sup>2</sup>	10 (NO <sub>x</sub> )	10 (ROG)	15
Exceeds threshold?	N/A	No	No	No

Notes:

HC = hydrocarbon. For the purposes of this document, hydrocarbon (HC), reactive organic gases (ROG), and precursor organic compounds (POC) emissions are assumed to be equivalent.

N/A = Not Applicable

Estimate assumes 500 hours/year run time for all four engines.

<sup>1</sup>Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance (limited to a maximum of 50 hr/yr for each generator).

<sup>2</sup> The BAAQMD CEQA threshold for CO is not applicable. The proposed project would result in a less-than-significant impact to localized CO concentrations, because operations of the proposed project would meet the screening criteria for CO impacts in the 2017 BAAQMD CEQA Guidelines, Section 3.3, Carbon Monoxide Impacts (BAAQMD 2017). The project would not be one of the categories of projects subject to congestion management plans or programs. In addition, project-related traffic volumes would be small, and would not result in traffic-related impacts at local intersections. No further analysis is required.

Source: Brown and Caldwell, 2017.

As shown in Table 4, the proposed generators would emit criteria pollutants, but emissions would be below the BAAQMD CEQA thresholds.

Operation of the WWTP is expected to emit POC, which BAAQMD regulates as a precursor to the criteria pollutant ozone. However, as presented in Table 5, unabated POC emissions are estimated to be equivalent to existing plant operational emissions, and abated operational emissions from the Project would be considerably lower than current operations (Brown and Caldwell, 2017). POC emissions from Project operations would not exceed the BAAQMD CEQA threshold, and operational impacts would be less than significant.

Table 5. Estimated WWTP Potential to Emit of Criteria Pollutants

*San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

Criteria Pollutant	Emission Factor (lb/MMgal)	Flow (MMgal/day)	Emission for Entire Plant		WWTP Liquid Component	Carbon Adsorption Efficiency	Emissions for Liquid Side of Plant	
			lb/yr	lb/hr			lb/yr	lb/hr
<b>Current</b>								
POC	0.7	15.7	4.01E+03	4.58E-01	100%		4.01E+03	4.58E-01
<b>Future</b>								
POC	0.7	15.7	4.01E+03	4.58E-01	100%	85%	6.02E+02	6.87E-02
<b>Difference</b>								
							-3.41E+03	-3.89E-01

## Notes:

POC = precursor organic compounds. For the purposes of this document, hydrocarbon (HC), reactive organic gases (ROG), and precursor organic compounds (POC) emissions are assumed to be equivalent.

Lb/hr = pounds per hour

MMgal/day = million gallons/day

Source: Brown and Caldwell, 2017.

New Project facilities would result in new odor sources; however, as described in Section 1.7.2, Project Details, facilities would be designed with odor control systems, including hydrogen sulfide (H<sub>2</sub>S) abatement, to reduce the potential for odor-related impacts when compared to current conditions. Older infrastructure would be replaced with newer infrastructure in better condition, with new odor control systems and better removal of odorous compounds than existing systems. Therefore, the potential for odor generation resulting from the Project would decrease compared to current conditions. Additionally, consistent with **Mitigation Measure 4-4** from the 2016 Final PEIR, the City is in the process of obtaining a permit from BAAQMD for operation of the diesel generators, odor control facility, and treatment process, which would further reduce impacts to air quality, including odor. Therefore, no significant odor impacts would occur.

The Project is within the scope of the Project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to air quality or require additional mitigation.

**Mitigation Measures:**

The following mitigation measures from Section 4.5 the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 4-1 Implement BAAQMD construction emission control measures<sup>1</sup>.**

CWP contractors shall comply with all applicable BAAQMD construction emission control measures. Applicable construction emission control measures may include, but are not limited to, the following:

- All exposed surfaces (for example, parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered twice per day.
- All haul trucks transporting soil, sand, or other loose material offsite shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once a day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of *California Code of Regulations*). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to support compliance with applicable regulations.

**Mitigation Measure 4-4. Incorporate odor control systems for facilities with odor potential and obtain permits from BAAQMD.**

The design, construction, and operation of facilities with the potential to generate odors shall include appropriate odor control systems. The odor control system shall be sized and operated to be below BAAQMD's Regulation 9, Rule 2, Inorganic Gaseous Pollutants – Hydrogen Sulfide limits of hydrogen sulfide below 0.06 parts per million averaged over three consecutive minutes or 0.03 parts per million averaged over any 60 consecutive minutes in any 24-hour period (BAAQMD, 1979).

The City of San Mateo Department of Public Works shall obtain all necessary permits from the BAAQMD for the operation of new, modified, and existing emission sources, as required.

**IV. BIOLOGICAL RESOURCES.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>1</sup> Updated to reflect control measures that were issued in 2017 (BAAQMD, 2017)



to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

The Detroit Drive, Dale Avenue, and Bayfront parcels were evaluated at the Project-specific level in the 2016 Final PEIR (see Section 5.4) as part of the WWTP expansion. Surveys were conducted in April 2015 and March 2016 to support the 2016 Final PEIR. The surveys concluded that neither site contains special-status plants and that rare plants would not be expected to occur. Species with potential to occur on, or in the vicinity of, the Detroit Drive parcel include migratory birds, salt-marsh harvest mouse (*Reithrodontomys raviventris*, a state and federal endangered species), Ridgway's rail (formerly known as California clapper rail) (*Rallus longirostris obsoletus*, a state and federal endangered species and a California Department of Fish and Wildlife [CDFW] Classification of Fully Protected [CFP]), California red-legged frog (*Rana draytonii*, a federal threatened species), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, a state and federal endangered species and CDFW CFP), and western pond turtle (*Emys marmorata*, a CDFW species of special concern). All three sites have a low potential to support special-status species.

An additional survey was conducted on August 17, 2015, for the Anchor Road and Bayside/Joinville Park Extension parking/staging areas located east of the Project site. The surveys concluded that neither staging area contains suitable habitat to support special-status species.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to or require additional mitigation for biological resources.

Though there is little potential for special-status species to occur on the Project site and staging areas the 2016 Final PEIR contains **Mitigation Measures 5-1a, 5-1b, and 5-1c** to minimize impacts on special-status wildlife, as well as other impacts to biological resources, and those and impacts would be less than significant. Operation of the Project is not expected to affect special-status wildlife, which are not likely occur at an active WWTP facility, and impacts to biological resources would be less than significant.

Additional Mitigation Measures related to site preparation activities on the Detroit Drive parcel have already been completed. Section 5.4 (Impact 5-3) of the 2016 Final PEIR provided the full impact analysis related to the fill of approximately 0.14 acres of potential jurisdictional wetland and the removal of heritage trees. Consistent with **Mitigation Measures 5-3a (Provide appropriate offset for fill of jurisdictional wetlands)** from the 2016 Final PEIR, the City obtained a Section 401 Water Quality Certification from the RWQCB and a Section 404 Permit from the U.S. Army Corps of Engineers (USACE). In compliance with the mitigation requirements, the City purchased 0.15 acre of wetland mitigation credit from the San Francisco Bay Wetland Mitigation Bank. Additionally, as part of the Section 404 permit process, USACE consulted with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act regarding the Project’s potential to impact the Ridgway’s Rail. The USFWS issued a letter of concurrence stating that the Project “is not likely to adversely affect California Clapper rail” (USFWS, 2017) (see Attachment 2). The wetland was closed as of October 2017, and no other wetlands exist within the Project site or sparking/staging areas.

Additionally, consistent with **Mitigation Measure 5-5 (Prepare and implement a tree protection plan for heritage trees)**, the City obtained a tree removal permit for the removal of the eucalyptus trees. Other trees located on the Project site requiring removal may meet the requirements for heritage trees. Implementation of **Mitigation Measure 5-5** would reduce impacts to a less-than-significant level.

#### Mitigation Measures:

The following mitigation measures from Section 5.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

#### Mitigation Measure 5-1a. Perform work during seasonal avoidance windows where feasible.

The City of San Mateo and its contractors shall perform construction work for projects with the potential to affect special-status species during the appropriate seasonal avoidance window, where feasible. These windows avoid times of the year when the species may be more vulnerable, such as nesting or hibernating periods. The seasonal avoidance windows for species potentially present in the Program Area are shown in Table 6.

**Table 6. Seasonal Avoidance Windows**

*San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nesting Birds												
SFGS												
CRLF												
Steelhead												
Western Pond Turtle												
SMHM												
Longfin Smelt												

Shading indicates avoidance periods.

#### Sources:

Nesting Birds: ICF International and H.T Harvey and Associates, 2013.

San Francisco Garter Snake (SFGS): United States Fish and Wildlife Service, 1985. This avoidance period is when the species is normally most dormant, in burrows, and therefore most vulnerable; the May to September period would not avoid the species per se, but is a better time to conduct work (Swaim, 2015).

California Red-Legged Frog (CRLF): United States Fish and Wildlife Service, 2011.

Steelhead: H.T. Harvey and Associates, 2009.

Western Pond Turtle: Stone, 2009.

Salt Marsh harvest Mouse (SMHM): U.S. Fish and Wildlife Service, 2010.

Longfin Smelt: Isaac, 2009.

**Mitigation Measure 5-1b. Perform pre-construction surveys for special-status wildlife species.**

The City of San Mateo or its contractors shall perform preconstruction surveys for the following special-status wildlife species:

- **Salt marsh harvest mouse:** Prior to start of construction on the Detroit Drive or Bayfront parcels, a preconstruction survey for salt marsh harvest mouse by a qualified biologist shall be completed. If salt marsh harvest mouse is found during preconstruction surveys, the area around the mouse shall be avoided until the mouse leaves the site on its own. Alternatively, USFWS and CDFW could be contacted to evaluate options. When the salt marsh harvest mouse is determined to be absent from the site, temporary barriers shall be established to prevent salt marsh harvest mouse from entering the construction site. If a new wall around the WWTP Site is constructed prior to construction of WWTP facilities, it may serve as an adequate barrier to salt marsh harvest mouse. This shall be determined by a qualified biologist. Prior to the start of work, construction workers shall be trained on the biological and habitat characteristics of salt marsh harvest mouse and the need for avoidance.
- **Ridgway's rail:** To reduce the likelihood that nesting Ridgway's rails are in the vicinity prior to construction activities at the WWTP Site or within 700 feet of the shoreline, a pre-construction nesting bird survey shall occur during the nesting season prior to the start of construction. The nesting season for Ridgway's rail extends from January 1 through August 31. If required by agencies, a USFWS-approved biologist will conduct a protocol-level survey for Ridgway's rails during the spring prior to start of construction to determine if rails are present in the vicinity of the construction site. If nesting Ridgway's rails are detected in any portion of the marsh within 700 feet of the construction site, no construction activities shall occur within 700 feet of the occupied areas (unless specifically approved by the USFWS) until occupied nests have successfully hatched young, as determined by a USFWS-approved biologist. Prior to the start of work, construction workers shall be trained on the biological and habitat characteristics of Ridgway's rail.
- **California red-legged frog, San Francisco garter snake, and western pond turtle:** A preconstruction survey shall be performed by a qualified biologist 24 hours prior to the start of construction activities for pipeline projects that cross creeks or channels and for any work proposed adjacent to Leslie Creek outside the WWTP wall. If a California red-legged frog or San Francisco garter snake is observed in or near an active work area, Project activities in the immediate area shall be halted immediately and when safe to do so. A qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the animal leaves the site on its own or another approach approved by USFWS is implemented. If a western pond turtle is observed in or near the work area, a CDFW-approved biologist shall try to passively move the turtle out of the area.
- **Nesting birds:** For any CWP projects located in the WWTP Site and for any collection system projects with 500 feet of a creek or channel with riparian vegetation, a preconstruction nesting bird survey shall be performed by a qualified biologist 14 days prior to construction if work activities are conducted between February 1 and August 31. Should an active nest for a protected species be observed prior to construction activities, CDFW shall be notified to determine proper buffers for construction. Buffers shall be maintained until young have fledged (left the nest on their own), as determined by a qualified biologist, or the nest is no longer active due to non-construction-related reasons. If it is not practicable to avoid work in a buffer zone around an active nest, work activities shall be modified to minimize disturbance of nesting birds, but may proceed in these zones at the discretion of the biologist. The biologist shall monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by a monitor, work may

be halted or redirected to other areas until the nesting and fledging is completed or the nest has otherwise failed for non-construction-related reasons. The USFWS and the CDFW could be contacted regarding alternate avoidance measures if halting or redirecting work is not feasible.

**Mitigation Measure 5-1c. Protect special-status wildlife species found during construction.**

If special-status wildlife species occur on a project site, the City or its contracts shall implement measures during construction to protect the following special-status wildlife species:

- **Salt marsh harvest mouse:** If a salt marsh harvest mouse is observed in or near an active work area, Project activities in the immediate area shall immediately be halted when safe to do so, and a qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the mouse leaves the site on its own or another approach approved by USFWS is implemented. The qualified biologist shall inspect the temporary or permanent barrier to determine if repairs or modifications are needed to prevent further access by salt marsh harvest mouse. If determined necessary, a USFWS-approved biologist shall continue to monitor the work area.
- **Ridgway's rail:** If nesting Ridgway's rail move into the nearby tidal marsh and within 700 feet of an active work area, construction shall be halted until the Ridgway's rail nestlings have fledged and left the nest. If determined necessary, a USFWS-approved biologist shall continue to monitor the work area until the nestlings have fledged.
- **California red-legged frog, San Francisco garter snake, and western pond turtle:** If a California red-legged frog or San Francisco garter snake becomes trapped during construction activities, Project activities in the immediate area shall be halted immediately and when safe to do so. A qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the animal leaves the site on its own or another approach approved by USFWS is implemented. If a western pond turtle becomes trapped during construction activities, a CDFW-approved biologist shall remove the turtle from the work area and place it in a suitable habitat in the vicinity of the Project. If any of these species is discovered in the construction area during active operations, the equipment operator or equivalent shall temporarily cease operations until the animal has moved out of the way on its own accord and immediately contact the USFWS-approved biologist. If an ITP for federal or state threatened or endangered species is obtained for the CWP or individual projects, avoidance and minimization measures in the ITP shall be implemented. These measures could include relocation of California red-legged frog by a Service-approved biologist to a designated location outside the work area.
- **Migratory nesting birds:** If migratory birds begin nesting after construction has started and within 500 feet of work areas at the WWTP Site or at pipeline projects near riparian zones, it could mean the birds do not have a problem with the existing levels of noise and disturbance. Work shall continue only if the type of construction work does not increase noise or disturbance levels at the discretion of the qualified biologist. A qualified biological monitor shall monitor effects of construction on the nesting birds and shall stop construction when safe to do so if impacts on the birds are observed.

**V. CULTURAL RESOURCES.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

There are no known paleontological resources in the City of San Mateo (City of San Mateo, 2009). A cultural resources survey and literature search were conducted for the Detroit Drive (and staging), Dale Avenue, and Bayfront parcels as part of the 2016 Final PEIR (see Section 6.4). The survey and literature search concluded that there are no known historic or prehistoric resources within the Project site. A second survey and literature search were conducted for the Anchor Road and the Bayside/Joinville Park Extension parking/staging areas for the Project, and concluded that there are no known resources within the parking/staging areas. Prehistoric resources are known to occur in the general vicinity of the WWTP. The two staging areas would have little-to-no ground disturbance, and would not be expected to disturb buried artifacts; however, to minimize impacts from the accidental discovery of unknown resources that may be encountered during Project construction, **Mitigation Measures 6-1b and 6-2** from the 2016 Final PEIR will be implemented to reduce impacts to less than significant.

Additionally, as part of the Section 404 permit process described above in Section IV, Biological Resources, the USACE consulted under Section 106 of the National Historic Preservation Act with the State Historic Preservation Office (SHPO) for the Dale Avenue parcel, Detroit Drive parcel, and existing WWTP. SHPO concurred with the finding that the Project would have “no effect to historic properties” (Parks and Rec., 2016) (see Attachment 3).

**Mitigation Measures:**

The following mitigation measures from Section 6.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 6-1b. Halt construction if archaeological resources are discovered.**

In the event of the discovery of archaeological resources, the applicant shall be responsible for halting construction activities, notifying the chief of planning, and retaining a qualified archaeologist. The archaeologist would be required to evaluate the uniqueness of the find and to contact local Native American and historical organization and recommend a course of action.

**Mitigation Measure 6-2. Halt construction if paleontological resources are discovered.**

Should any potentially unique paleontological resources (e.g., fossils) be encountered during construction activities, work shall be halted immediately within 50 feet of the discovery. A qualified paleontologist shall determine the significance of the discovery, evaluate the uniqueness of the find, and prepare a written report documenting the find and recommending further courses of action. Depending on the significance of the discovery, the actions may include avoidance, preservation in place, excavation, documentation, recovery, or other measures determined by the paleontologist.

**VI. GEOLOGY AND SOILS.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

The Project would be constructed and operated in an area where there are no active faults or potentially active faults. Additionally, the Project site is not within an Alquist-Priolo Earthquake Fault Study Area, and does not contain evidence of recent inactive fault motion or of surface rupturing during the last 1 million years. However, the Project site is located within an area that has a high probability of at least one momentum magnitude 6.7 or greater earthquake within the next 30 years in the San Francisco Bay region (Field et al., 2015), and ground shaking associated with earthquakes near the Project site could affect the Project by causing damage to structures.

These facilities would be generally unoccupied, with only occasional occupancy by operations staff for maintenance and related activities. Additionally, the Project site is in an area designated as having high liquefaction potential, and could be damaged by earthquake-induced liquefaction.

Construction activities on the Project site could also increase localized soil erosion from soil stockpiling and surface disturbance.

Consistent with **Mitigation Measure 7-1 (Perform site-specific geotechnical and engineering studies and implement recommendations)** from the 2016 Final PEIR, the City has conducted geotechnical analyses (HDR, 2016a and HDR, 2016b), the results of which are being used by the design team to ensure the Project is in compliance with federal, state, and local regulations related to reducing earthquake and soil hazards. Additionally, implementation of **Mitigation Measure 7-2** from the 2016 Final PEIR, requiring the City to comply with regulations and policies for erosion control during Project construction, would reduce impacts to a less-than-significant level.

The Project is within the scope of the Project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to or require additional mitigation for geologic and soil resources.

**Mitigation Measures:**

The following mitigation measures from Section 7.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 7-2. Comply with regulations and policies for erosion control.**

The City of San Mateo and its construction contractors shall develop prior to start of construction and implement a Project-specific Stormwater Pollution Prevention Plan (SWPPP) for construction projects with a land disturbance area equal to or greater than 1 acre. For projects with disturbance area less than 1 acre in size, a site-specific Erosion and Sediment Control Plan shall be prepared. For projects with any land disturbance, construction shall comply with the San Mateo Site Development Code and shall incorporate an effective combination of erosion and sediment control measures that are identified in Association of Bay Area Governments (ABAG) and/or California Stormwater Quality Association guidance manuals. Construction erosion and sediment control best management practices (BMPs) typically include, but are not limited to, the following measures:

- Scheduling site grading during the non-rainy season (April 15 to October 15), where possible
- Segregation of topsoil during rough grading
- Temporary soil stabilization during site grading and active construction
- Permanent post-construction site soil stabilization
- Erosion and sediment controls during construction dewatering activities
- Control of site run-on and runoff to isolate the work area and prevent onsite or offsite erosion and sediment transport during construction

- Dust suppression
- Stockpile management; in accordance with City standard construction practices, materials shall be stockpiled at central location(s) instead of within work areas, where feasible

**VII. GREENHOUSE GAS EMISSIONS.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

As described above in Section III, Air Quality, assumptions used for this greenhouse gas (GHG) analysis include the same equipment types. Though durations and Project schedule estimated in the 2016 Final PEIR differs from the upgrade and expansion project, over the life of the Project, direct GHG emissions associated with construction and indirect emissions associated with operations would be within the emissions estimated for the program in the 2016 Final PEIR. Table 7 provides yearly estimated GHG emissions from construction.

**Table 7. Estimated Construction Greenhouse Gas Emissions**  
*San Mateo Clean Water Program- Wastewater Treatment Plant Upgrade and Expansion Project*

Peak Worst-Case Daily Emissions	
Year	MTCO <sub>2</sub> e per Year
2018	245.8
2019	2,067.3
2020	1,972.0
2021	1,704.3
2022	542.2
2023	133.3

Notes:

MTCO<sub>2</sub>e = metric tons of carbon dioxide equivalent

Additionally, construction-related emissions would be short term and, with implementation of **Mitigation Measure 4-1** from the 2016 Final PEIR (listed above in Section III, Air Quality), impacts would be less than significant.



Operational GHG emissions associated with the new diesel-fueled emergency generators is estimated to be approximately 113.9 MTCO<sub>2</sub>e per year. Electrical consumption used for operation is expected to result in an increase in indirect GHG emissions. However, as described in the 2016 Final PEIR, the facility will use electricity from the California’s power grid that meets the Renewables Portfolio Standard consistent with the AB32 GHG and SB 32 GHG emission reduction goals, and the latest strategies for achieving the GHG reduction goals in the 2017 Scoping Plan Update (ARB, 2017). Therefore, emissions associated with electrical usage for the Project are expected to decrease in future years, which would lessen the actual emissions from operation of the Project, resulting in a less-than-significant impact.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to or require additional mitigation for GHGs.

**VIII. HAZARDS AND HAZARDOUS MATERIALS.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

Construction of the Project would require the use of vehicles and other construction equipment, which would use hazardous materials such as fuels, lubricants, and solvents. Accidental releases of small quantities of these materials could expose people and the environment to hazardous materials. However, the handling and storage of these materials would be in accordance with all federal, state, and local policies governing the use of hazardous materials.

Construction workers could be exposed to asbestos or lead through the demolition and removal of existing facilities at the WWTP. The potential health hazards of asbestos are increased during construction and demolition when asbestos-containing materials are disturbed. Airborne exposure to lead is possible during removal of paint or painted materials. Compliance with **Mitigation Measure 9-1** from the 2016 Final PEIR, facilities that potentially contain asbestos or lead shall be tested and screened prior to modification or demolition activities to allow the implementation of BMPs and state and federal management requirements. Certified contractors shall remove the materials to reduce the potential for exposure. Occupational Safety and Health Administration (OSHA) and City policies shall be followed in the creation and implementation of an asbestos or lead abatement plan.

Additionally, in compliance with **Mitigation Measure 9-3** from the 2016 Final PEIR, the City conducted Phase I and Phase II assessments of the Project site. The Phase I assessment concluded that one potential recognized environmental condition (REC) was identified on a Storage Yard, currently in use by the City for temporary staging for City construction projects. The REC was described as “oily stains on the northeast corner of the Project site that may be attributed to trucks that transported materials to the Storage Yard and/or equipment that is temporarily stored in the Storage Yard (Terraphase, 2016a).”

The Phase II assessment provided additional information about the REC identified in Phase I, including results of groundwater and soil samples from borings that were taken at the Project site. The REC was characterized as total petroleum hydrocarbons (TPH) from diesel and motor oil at depth from 0 to 10 feet below ground surface. Concentrations in the soil were attributed to fill material that had been previously used onsite to achieve the current grade elevation at the Storage Yard. The Phase II report also identified organochlorine pesticides in one boring location, and groundwater samples, as well as metals in surficial samples, but all were determined to be confined to one location within the Storage Yard.

Additionally, some soil samples exceeded screening criteria for volatile organic compounds, semivolatile organic compounds, and organochlorine pesticides, but no chemicals of concern were

detected above their total threshold limit concentrations. The Phase II report recommended the preparation of a site soil and groundwater plan to provide protocol for soil management and construction dewatering. The Phase II assessment also recommended soil segregation to screen for contaminants, as well as test groundwater for contaminants prior to disposal, and submit results to the RWQCB (Terraphase, 2016b). The City is preparing a soil and groundwater plan, as per the Phase II assessment, that will be implemented during Project construction. Contaminated soil and groundwater removed from the site will be handled in accordance with federal, state, and local regulations, and impacts would be less than significant.

The Project would require the closure of roadways within the vicinity of the existing WWTP and could interfere with emergency access and evacuation. Implementation of **Mitigation Measure 9-4** from the 2016 Final PEIR would reduce impacts to a less-than-significant level.

Two schools are located within 0.25 mile of the existing WWTP: Bayside STEM Academy is directly south of the WWTP, and Horrall/LEAD Elementary School is west of the WWTP, at the intersection of Dale Drive and Ocean View Avenue. The WWTP has been operating within the community and near these schools for decades. The use, storage, transport, and disposal of hazardous materials for the Project would be similar to current practices and would continue under existing regulations, programs, and plans, including a hazardous materials business plan and spill prevention control and countermeasures plan.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to, or require additional mitigation for, hazards and hazardous materials.

**Mitigation Measures:**

The following mitigation measures from Section 9.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 9-1. Complete testing for asbestos and lead in existing structures.**

Facilities that potentially contain asbestos or lead shall be tested and screened prior to construction of projects that include modification, rehabilitation, or demolition of existing structures to allow the implementation of BMPs and state and federal management requirements. Certified contractors shall remove the materials to reduce the potential for exposure. OSHA and City policies shall be followed in the creation and implementation of an asbestos or lead abatement plan.

**Mitigation Measure 9-4. Coordinate emergency services during construction.**

For any project within the WWTP Site that have work areas located near roadways, or that may otherwise interfere with emergency access, the City shall follow its standard measures to coordinate in advance with the San Mateo Police Department (SMPD) and establish signage and detours so that emergency access, including police and fire access, is maintained during temporary construction activities. Signage and notifications to the public regarding parking, driving, and pedestrian access disruptions shall be made. Emergency personnel and coordination centers shall be notified of construction locations and schedules prior to start of construction.

<b>IX. HYDROLOGY AND WATER QUALITY.</b> Would the proposed project:				
	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge causing a net deficit in aquifer volume or a lowering of the local groundwater table level?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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 on- or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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 on- or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

The Project would have potential impacts to hydrology and water quality due to excavation, grading, and other earth-disturbing activities that would expose and disturb soils, as well as potential impacts to drainage patterns on the Detroit Drive parcel from construction activities. Groundwater encountered during construction and water used during construction could affect water quality if discharged improperly. Paving, refueling, use of construction equipment, and other activities have the potential to create pollutants such as gasoline, oil, rubber particles, herbicides, paint, adhesives, and tar that could enter nearby waterways and degrade water quality. Implementation of **Mitigation Measures 10-2** from the 2016 Final PEIR would reduce impacts to hydrology and water quality during Project construction, and impacts would be less than significant.

The Detroit Drive site is currently an unoccupied parcel that would be paved and developed as part of the Project. This could result in minor change to the local drainage patterns and surface water runoff, however is not expected to increase the rate or amount of surface water runoff, cause flooding, or exceed the capacity of existing storm water facilities. Implementation of **Mitigation Measures 10-3** from the 2016 Final PEIR would further reduce impacts, and impacts would be less than significant.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to, or require additional mitigation for, water resources.

**Mitigation Measures:**

The following mitigation measures from Section 10.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measures 10-2. Install and apply erosion control and stormwater best management practices during construction.**

Applicable erosion control and stormwater BMPs shall be installed and maintained during construction for all earth-disturbing activities. Construction activities shall be required to comply with all RWQCB regulations and procedures for discharging wastewater, including dewatering discharges, as detailed in the SWPPP and STOPPP prepared for each project and as required under Chapter 7.39 of the Municipal Code (City of San Mateo, 2015). Applicable BMPs to reduce erosion and siltation and protect water quality can include, but are not limited to: designate construction access routes; stabilize construction access points; stabilize cleared and excavated areas by providing vegetative buffer strips, plastic coverings, and applying ground base on areas to be paved; protect adjacent properties and waterways by installing sediment barriers, filters, or vegetative buffer strips; prevent surface runoff from discharging into storm drains; use sediment controls and filtration to remove sediment from water generated by dewatering; and avoid refueling and vehicle maintenance on construction sites as feasible.

**Mitigation Measure 10-3. Develop a stormwater drainage plan.**

The City or its contractors shall develop a stormwater drainage plan for the various portions of the WWTP Site as they are developed. Storm Water Management and Discharge Control Ordinance

(Chapter 7.39 of the Municipal Code [City of San Mateo, 2015]) requires that applicants for all projects develop a stormwater drainage plan that produces no net increase in flooding onsite or offsite due to exceedance of stormwater drainage system capacity. As stated in the ordinance, Project drainage plans shall be approved by the City prior to construction of a project, and stormwater drainage plans shall be implemented in conjunction with project construction.

**X. LAND USE AND PLANNING.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

The 2016 Final PEIR conducted a land use evaluation of the Detroit Drive and Dale Avenue parcels (see Section 11.4). The zoning designation for the Detroit Drive parcel (including staging), Bayfront parcel, Anchor Road, and the Bayside/Joinville Park Extension parking/staging areas is Shoreline (S) and for the Dale Avenue parcel, the zoning is Open Space (OS). The 2016 Final PEIR includes **Mitigation Measure 11-2**, requiring the CWP to obtain a special use permit for the improvements to the WWTP. All parking/staging areas associated with the Project would be used temporarily during the construction phase, and will require a temporary use permit.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to, or require additional mitigation for, land use.

**XI. MINERAL RESOURCES.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Result in the loss of availability of a known mineral resource that would be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion:</b> There are no known mineral resources at the project site.				
<b>XII. NOISE.</b> Would the proposed project result in:				
	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

The 2016 Final PEIR evaluated potential noise impacts from both construction and operation of the WWTP (see Section 12.4). The document concluded that there would be significant and unavoidable impacts to noise from construction activities during the expected 10-year construction duration of the Project. The expected duration of construction for the Project will be significantly reduced from what was evaluated in the 2016 Final PEIR from 10 years to approximately 5 years, reducing the amount of time sensitive receptors would be exposed to high levels of construction noise. However, it is expected that receptors will still be subject to periodic high levels of noise and/or vibration during construction activities, as the methodology would be similar to what was included in the 2016 Final PEIR.

Implementation of **Mitigation Measures 12-1a, 12-1b, 12-1c, 12-2, and 12-3** from the 2016 Final PEIR would reduce impacts from noise; however, as previously concluded, impacts are expected to remain significant even after implementation of mitigation. Operational noise impacts are expected to be at similar levels to current operations. When the City adopted the 2016 Final PEIR and approved the Project, the City also adopted a statement of overriding considerations for significant and unavoidable noise impacts that were expected from construction of the Project.

The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to, or require additional mitigation for, noise or vibration impacts.

**Mitigation Measures:**

The following mitigation measures from Section 12.5 of the 2016 Final PEIR would reduce impacts from the Project, however, as per the 2016 Final PEIR, impacts are expected to remain significant:

**Mitigation Measure 12-1a. Develop and implement construction noise minimization measures.**

General noise minimization measures available to reduce sound levels from construction activities include but are not limited to the following:

- Specify general construction noise mitigation measures that require the contractor to use equipment that is in good working order, adequately muffled, and maintained in accordance with the manufacturers' recommendations.
- Use semi-permanent stationary equipment (e.g., generators and lights) with "quiet" packages (as available) and stationing it as far from sensitive areas as possible.
- During construction, erect temporary barriers using materials such as intermodal containers or frack tanks, plywood walls, mass-loaded vinyl (vinyl impregnated with metal), or hay bales. Barriers shall be erected as close as safely feasible to the noise source. Barriers shall be used when equipment is expected to exceed 90 A-weighted decibels (dBA) at the property plane, based on actual measured noise levels for the specific equipment, as cited in *Roadway Construction Noise Model User's Guide* (FHWA, 2006). The barrier shall be designed to provide sufficient attenuation to reduce noise to less than 90 dBA at the property plane, as feasible.

If a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements would be impractical or unreasonable, the contractor shall obtain an exceptions permit per Section 7.30.070 of the Municipal Code. The permit shall be issued by the City Manager, or the manager's designee, with appropriate conditions to minimize the public detriment caused by such exceptions. The duration of the permit shall be as short as possible, but in no case for longer than 6 months.

**Mitigation Measure 12-1b. Operate a construction Noise Hot Line.** The City shall establish a telephone number for use by the public to report any significant undesirable noise conditions associated with construction and demolition of CWP projects. If the telephone is not staffed 24 hours per day, the City



shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction and demolition so that it is visible to passersby. This telephone number shall be maintained during CWP construction.

**Mitigation Measure 12-1c. Resolve construction Noise Complaints.** Throughout construction of the CWP, all legitimate Project-related noise complaints shall be documented, investigated, evaluated, and resolved as feasible. The City or its authorized agent shall be responsible for the following:

- Use the Noise Complaint Resolution Form typically suggested by the California Energy Commission, or a functionally equivalent procedure, to document and respond to each noise complaint.
- Attempt to contact the person(s) making the noise complaint within 24 hours.
- Conduct an investigation in an attempt to determine the source of noise related to the complaint.
- If the noise complaint is legitimate, implement feasible measures to reduce the noise.

**Mitigation Measure 12-2. Incorporate noise minimization in WWTP facility design.** The final WWTP design would implement necessary measures so that noise-generating equipment with appropriate noise-minimization features to comply with applicable requirements. Potential noise design measures include but are not limited barriers, enclosures, vibration isolation, and quieter equipment specifications. Final design shall include noise minimization measures to limit sound levels attributable to each project to an increase in existing  $L_{dn}$  of less than 3 dBA or  $L_{dn}$  of 60 dBA at noise-sensitive receivers and less than  $L_{dn}$  65 dBA in commercial areas.

**Mitigation Measure 12-3. Incorporate vibration issues into Project construction.** As part of the final design effort, the potential for construction activities to result in excess vibration shall be assessed and site-specific minimization measures for each CWP project implemented as necessary.

### XIII. POPULATION AND HOUSING. Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Discussion:</b>				
The Project is in direct line with proposed upgrades to the WWTP that were evaluated in the 2016 Final PEIR and, thus, would not induce growth in the City, nor would the Project displace housing or people.				
<b>XIV. PUBLIC SERVICES.</b> Would the proposed project:				
	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
(i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Schools	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Parks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion:</b>				
Construction of the Project would occur adjacent to the existing WWTP and would not affect emergency access. There would be limited access along the portions of Detroit Drive and Bayside/Joinville Park between the Detroit Drive parcel, the Bayfront parcels, and the WWTP during construction. Upon completion of the Project, access to portions of Detroit Drive and Bayside/Joinville Park may be limited or closed to the public; however, street access east of the WWTP along Detroit Drive, adjacent to the American Self Storage business, would remain open for access to the business and the WWTP.				
The Project is within the scope of the project that was evaluated in the 2016 Final PEIR, including the site-specific review that was conducted at the Detroit Drive parcel for the primary clarifiers and new headworks projects, and would not result in new impacts to, or require additional mitigation for, public services.				

**XV. RECREATION.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

Currently, pedestrians and bicyclists travel around the WWTP by using Dale Avenue, a small access road west of the facility; Detroit Drive, north of the facility; and Joinville Park Road, east of the facility. Section 15.4 of the 2016 Final PEIR disclosed that construction of the Project would “likely result in the closure of Detroit Drive for approximately 10 years, depending on the final configuration of new WWTP facilities” as well as the permanent closure of Detroit Drive. The 2016 Final PEIR also disclosed that “access roads on the east and west sides of the existing WWTP may also be temporarily closed by construction,” affecting access between residential areas and recreation facilities east and west of the WWTP Site. The Project would require the closure of the same access routes as described in the 2016 Final PEIR; however, the duration of the closures would be considerably shorter than the previously expected duration.

The use of the Anchor Road parking area for construction worker access would not hinder the use by the general public, and would cease upon completion of Project construction. The pedestrian and bike trail access route for Bayside/Joinville park may experience temporary intermittent closures to allow construction vehicles to access the staging area south of East 3rd Avenue; however, the pedestrian and bike trail would remain open during construction. Additionally, implementation of **Mitigation Measure 11-1** from the 2016 Final PEIR would reduce impacts to a less-than-significant level by providing a clearly marked, safe, and accessible route past the WWTP Site; therefore, impacts would be less than significant.

**Mitigation Measures:**

The following mitigation measures from Section 11.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 11-1 Provide pedestrian and bicycle access around the WWTP Site.**

The City shall identify and establish a pedestrian and bicycle access route around the WWTP Site to allow pedestrians and bicyclists to traverse between residential and recreation uses east and west of the WWTP Site. Different routes may be used for temporary access during construction and for permanent access. The route shall meet all applicable health and safety codes, and include clear signage to direct users to the route. Route options include a new access trail between the southern wall of the WWTP and Leslie.

<b>XVI. TRANSPORTATION/TRAFFIC.</b> Would the proposed project:				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(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 transits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Discussion:</b>				
Assumptions used for this traffic analysis include revised construction vehicle estimates than were originally provided in the 2016 Final PEIR. Peak daily construction trips are expected to be a maximum				

of approximately 320 trips per day, with an expected daily average of 150 trips for the duration of the 5-year construction period (Lenz, 2018, Pers. Comm.), and includes heavy haul trips for the delivery of concrete and equipment, removal of excavated material, and workforce trips. During periods of peak construction, construction workers would park offsite, in the Anchor Road parking area near Coyote Point Recreational Area. A portion of the parking area will be fenced off for use by construction worker vehicles commuting to the Project site; however, some portion of the parking lot will remain open for public use.

Construction activities associated with the Project would result in an increase in local traffic due to construction-related workforce traffic and material deliveries. Construction efforts could obstruct traffic and degrade the level of service at study intersections and nearby intersections if traffic management during construction is not appropriately planned. Additionally, inadequate emergency access may occur due to road and lane closures near the Project site. The Project is expected to last approximately 5 years (versus up to 10 years as previously expected) and during the period of construction, **Mitigation Measures 9-4 (see Section VIII, Hazards and Hazardous Materials) and 16-1** from the 2016 Final PEIR would be implemented and would reduce impacts from construction traffic. Additionally, traffic impacts would be temporary and once construction has ceased, operational traffic will be nearly identical to what is currently occurring at the WWTP, and impacts would be less than significant.

**Mitigation Measures:**

The following mitigation measures from Section 16.5 of the 2016 Final PEIR would reduce impacts from the Project to a less-than-significant level:

**Mitigation Measure 16.1. Prepare and implement a traffic management plan.**

Construction of some of the CWP projects would require temporary lane closures, traffic detours, and the use of oversized equipment. Implementation of the CWP shall include a Traffic Management Plan (TMP) that would minimize impacts on through traffic as a result of construction activities. The TMP would be prepared in accordance with the *California Manual of Uniform Traffic Control Devices* (MUTCD) Caltrans, 2014b) and all applicable requirements of the San Mateo Department of Public Works Conditions of Approval. The TMP shall be approved by the City of San Mateo Department of Public Works prior to construction and implemented at all times during construction of the Project. If construction requires use of or detours on the rights-of-way of other communities, permits and approvals may be required from these local agencies. The City of San Mateo and its contractors shall cooperate with other communities to obtain the necessary approvals.

The TMP shall be prepared by a qualified transportation engineer and include recommendations for appropriately managing traffic during the construction period by implementing measures such as construction schedule restrictions, signage, and flaggers. Such measures would promote traffic movement during construction to avoid substantial LOS degradation (i.e., level of service [LOS] levels that are less than the City's adopted LOS threshold).

The TMP would include but not be limited to the following measures:

- Temporarily close of travel lanes or disruptions to street segments and intersections during trenching activities within road rights-of-way or while utilities are being connected.
- Prepare temporary traffic control plans for each site location. In accordance with the San Mateo Public Works Department Conditions of Approval, prior to issuance of a permit, the contractor shall submit applicable pedestrian or traffic detour plans, to the satisfaction of the City Engineer, for all lane or sidewalk closures. The detour plan shall comply with Part 6, Temporary Traffic Control, of the MUTCD, and standard construction practices. The temporary traffic control plans will identify

the need for flaggers for directing traffic, temporary signage, lighting, traffic control devices, and other measures, if required.

- Identify oversize and overweight load haul routes. Transporters will comply with state and county regulations for transportation of oversized and overweight loads on all state and county roads. Such regulations typically include provisions for time of day, pilot cars, law enforcement escorts, speed limits, flaggers, and warning lights. In accordance with the San Mateo Public Works Department Conditions of Approval, for material delivery vehicles equal to or larger than two-axle, six-tire, single-unit truck size (as defined by Federal Highway Administration Standards), the contractor will submit a truck hauling route that conforms to City of San Mateo Municipal Code Section 11.28.040 for the approval of the City Engineer. Contractors will be prohibited from using trucks with “compression release engine brakes” on residential streets. The contractor will submit a letter to and obtain approval from, the Department of Public Works confirming the intention to use the hauling route prior to the issuance of any City permits. All material hauling activities shall comply with applicable City ordinances and conditions of approval.
- Schedule deliveries of heavy equipment and construction materials during periods of minimum traffic flow. In accordance with the San Mateo Public Works Department Conditions of Approval, earth hauling and materials delivery to and from the site, including truck arrivals and departures to and from the site, will be prohibited (to the extent possible) between the weekday hours of 4:00 p.m. to 5:30 p.m. Signs outlining these restrictions will be posted at conspicuous locations on site.
- Limit construction activities (to the extent feasible) to the weekday between 7:00 a.m. and 7:00 p.m. and between 7:00 a.m. and 5:00 p.m. for work within City rights-of-way, in accordance with the San Mateo Public Works Department Conditions of Approval. During night work at the WWTP Site, the contractor will coordinate with the Public Works Department to obtain an exemption to perform construction activities outside of these times.
- Post the approved hours of construction activity at the construction site in a place and manner that can be easily viewed by any interested member of the public.
- Determine the need for construction work hours and arrival and departure times outside peak traffic periods.
- Determine the need for construction scheduling outside of legal holidays and special events to avoid affecting large fluxes in traffic volumes. In accordance with the San Mateo Public Works Department Conditions of Approval, within the vicinity of Hillsdale Mall and within the downtown area during the holiday season (November 20 to January 1), there shall be no construction activities within rights-of-way that would create lane closures, eliminate parking, create pedestrian detours, or other activities that may create a major disturbance, as determined by the City Engineer. Prohibition on El Camino Real will be along its entire length within the City limits. For Hillsdale Shopping Center, construction prohibition streets shall include Hillsdale Boulevard between US-101 and SR-92, 31st Avenue between El Camino Real and Hacienda Street, and Edison Street and Hacienda Street in the vicinity of the shopping center. The limits of the downtown area shall be defined as: between El Camino Real on the west and Delaware Street on the east, Tilton Avenue on the north, and Fifth Avenue on the south. The prohibition shall also include the 3rd and 4th Avenue corridors between Delaware Street and US-101.
- Identify vehicle safety procedures for entering and exiting site access roads.
- Notify and coordinate with emergency responders regarding potential road closures prior to construction.
- Provide access for emergency vehicles to and around the Project site.

- Maintain access to adjacent properties. In accordance with the San Mateo Public Works Department Conditions of Approval the contractor will notify residential and commercial occupants of property adjacent to the construction site of the hours of construction activity which may impact the area. The notifications will be provided 3 days prior to the start of the extended construction activity.
- Notify and coordinate with transit operators regarding potential road closures prior to construction.
- Maintain access to transit, bicycle, and pedestrian facilities along Project routes.
- Notify and coordinate with mail service and waste haulers regarding potential road closures prior to construction.
- Provide a construction-parking plan that minimizes the effect of construction worker parking in the neighborhood. Include an estimate of the number of workers that will be present on the site during the various phases of construction, indicate where sufficient off-street parking will be used, and identify all locations for offsite material deliveries. The plan will be approved by the City Engineer prior to issuance of City permits and will be complied with at all times during construction.
- Implement a Transportation Demand Management Program using programs in compliance with the City/County Association of Governments of San Mateo County Guidelines for Trip Reduction. These programs, will be on-going throughout Project construction. The plan may include those actions listed in the Project trip reduction plan, including secure bicycle storage, shower changing facilities, guaranteed ride home program, information on transportation alternatives, carpool matching program, preferential parking for carpools/vanpools, employee transportation coordinator, TMA participation, parking reduction, carsharing, shuttle participation, flexible work hours/telecommuting, and an option to participate in the Caltrain GO Pass Program.

Signs would be provided to control traffic and assist with safety along CWP access routes and at designated road crossings. These signs will adhere to the MUTCD and will include regulatory signs (e.g., stop, speed limits, and yield) and warning signs and construction signs (e.g., temporary lane closures and flaggers). All signs will be maintained throughout CWP construction.

Public information will be distributed by using local news television and radio broadcasts, informational flyers and mailers, Web sites, and other outreach options. Signs would be installed and public notices would be distributed regarding construction work before disruptions occur; the notifications would identify detours to maintain access. In addition, flagmen or escort vehicles would control and direct traffic flow, and work would be scheduled during periods of minimum traffic flow.

**XVII. UTILITIES AND SERVICE SYSTEMS.** Would the proposed project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Exceed wastewater treatment requirements of the applicable Water Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate capacity to serve the project’s projected demand in addition to the providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

One of the objectives of the CWP is to upgrade the WWTP to meet regulatory requirements, including requirements of the RWQCB. The Project would improve the quality of discharged water and the reliability of the WWTP to meet discharge requirements. Currently, the Project site is a vacant vegetated lot that receives some amount of stormwater runoff. The Project includes the design of stormwater facilities to properly convey stormwater from the new and existing WWTP Site.

The Project would not require new or expanded water entitlements but rather would create an opportunity for use of recycled water, which could offset the use of potable water and result in a net increase in potable supply.

Minor disruptions in sewage or treatment service may occur during construction. In addition, the existing WWTP may occasionally be shut down for a night when an existing treatment facility needs to be taken offline. These service interruptions would be infrequent and short in duration (up to a few hours), and no significant impacts would be expected.

Construction activities would result in the generation of construction and demolition waste, including concrete, asphalt, used sewage pipes, soil, and used equipment. Construction and demolition projects in San Mateo are required to achieve a minimum recycling rate of 60 percent. Several construction salvage and recycling centers are located around the Bay Area to support construction waste diversion. Construction waste would go to landfills with sufficient permitted capacity. Hazardous materials



generated during construction would be disposed of at an appropriate licensed facility, and impacts would be less than significant.

### **XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Does the proposed project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Does the proposed 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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Does the proposed project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Discussion:**

- a) As discussed in Section IV, Biological Resources, with implementation of appropriate mitigation measures, the Project would not substantially, adversely impact biological resources, including the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number, or restrict the range of a rare or endangered plant or animal. Additionally, as discussed in Section IV, Cultural Resources, due to the lack of resources within the Project footprint, the Project would not eliminate important examples of the major periods of California history or prehistory. The Project would, therefore, result in a less-than-significant impact.
- b) The Project is a component of the City’s CWP, which has the potential to result in cumulatively considerable impacts when considered programmatically. However, nearly all the impacts associated with the CWP would be temporary and would cease once construction is completed.

These impacts have been documented in the 2016 Final PEIR, and mitigation measures have been identified to reduce impacts to the less-than-significant level to the extent possible; therefore, cumulative impacts would be less than significant.

- c) Implementation of mitigation measures previously identified in the 2016 Final PEIR would reduce nearly all impacts to the less-than-significant level. Noise impacts would have the potential to adversely impact human beings, specifically those residing in the immediate vicinity of the Project site; however, the impacts would be temporary and would cease once construction is complete. When the City adopted the 2016 Final PEIR and approved the Project, the City also adopted a statement of overriding considerations for significant and unavoidable noise impacts that were expected from construction of the Project. Noise impacts from the Project would not result in substantially new adverse impacts beyond what was previously identified in the 2016 Final PEIR.

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Attachment 1  
Construction and Operation Emission  
Assumptions



Construction Emission Summary - Criteria Pollutans, WWTP

Construction Year	Sources	Maximum Daily						Average Daily Emissions						Annual Emissions					
		ROG lb/day	NOx lb/day	CO lb/day	SO <sub>2</sub> lb/day	PM <sub>10</sub> lb/day	PM <sub>2.5</sub> lb/day	ROG lb/day	NOx lb/day	CO lb/day	SO <sub>2</sub> lb/day	PM <sub>10</sub> lb/day	PM <sub>2.5</sub> lb/day	ROG ton/year	NOx ton/year	CO ton/year	SO <sub>2</sub> ton/year	PM <sub>10</sub> ton/year	PM <sub>2.5</sub> ton/year
2018	equipment	4.74	54.30	30.51	0.07	2.34	2.16	1.67	19.06	10.82	0.03	0.83	0.77	0.10	1.16	0.66	0.00	0.05	0.05
	vehicle	0.17	3.79	4.39	0.03	0.31	0.14	0.12	2.61	3.02	0.02	0.22	0.09	0.01	0.16	0.18	0.00	0.01	0.01
	<b>Total 2018</b>	<b>4.91</b>	<b>58.10</b>	<b>34.89</b>	<b>0.10</b>	<b>2.66</b>	<b>2.30</b>	<b>1.78</b>	<b>21.67</b>	<b>13.84</b>	<b>0.04</b>	<b>1.05</b>	<b>0.86</b>	<b>0.11</b>	<b>1.32</b>	<b>0.84</b>	<b>0.00</b>	<b>0.06</b>	<b>0.05</b>
2019	equipment	4.13	44.17	26.84	0.06	2.02	1.86	2.20	23.64	13.65	0.03	1.07	0.98	0.40	4.32	2.49	0.01	0.19	0.18
	vehicle	1.01	32.55	13.00	0.12	1.13	0.53	0.69	22.47	8.98	0.08	0.78	0.37	0.13	4.10	1.64	0.02	0.14	0.07
	<b>Total 2019</b>	<b>5.14</b>	<b>76.71</b>	<b>39.84</b>	<b>0.18</b>	<b>3.16</b>	<b>2.39</b>	<b>2.89</b>	<b>46.11</b>	<b>22.63</b>	<b>0.12</b>	<b>1.85</b>	<b>1.35</b>	<b>0.53</b>	<b>8.42</b>	<b>4.13</b>	<b>0.02</b>	<b>0.34</b>	<b>0.25</b>
2020	equipment	4.47	47.77	34.56	0.08	2.13	1.97	1.46	14.90	10.65	0.03	0.65	0.61	0.27	2.72	1.94	0.00	0.12	0.11
	vehicle	0.79	20.37	18.64	0.13	1.53	0.66	0.55	14.07	12.87	0.09	1.05	0.46	0.10	2.57	2.35	0.02	0.19	0.08
	<b>Total 2020</b>	<b>5.26</b>	<b>68.14</b>	<b>53.21</b>	<b>0.21</b>	<b>3.65</b>	<b>2.63</b>	<b>2.01</b>	<b>28.97</b>	<b>23.52</b>	<b>0.11</b>	<b>1.71</b>	<b>1.06</b>	<b>0.37</b>	<b>5.29</b>	<b>4.29</b>	<b>0.02</b>	<b>0.31</b>	<b>0.19</b>
2021	equipment	2.16	21.82	18.15	0.04	0.94	0.87	1.04	10.48	8.56	0.02	0.44	0.40	0.19	1.91	1.56	0.00	0.08	0.07
	vehicle	0.59	11.32	19.04	0.12	1.60	0.68	0.41	7.81	13.14	0.08	1.10	0.47	0.07	1.43	2.40	0.01	0.20	0.09
	<b>Total 2021</b>	<b>2.75</b>	<b>33.14</b>	<b>37.19</b>	<b>0.16</b>	<b>2.53</b>	<b>1.54</b>	<b>1.44</b>	<b>18.30</b>	<b>21.70</b>	<b>0.10</b>	<b>1.54</b>	<b>0.87</b>	<b>0.26</b>	<b>3.34</b>	<b>3.96</b>	<b>0.02</b>	<b>0.28</b>	<b>0.16</b>
2022	equipment	0.98	9.15	8.98	0.02	0.36	0.33	0.42	3.69	3.04	0.01	0.14	0.13	0.08	0.67	0.55	0.00	0.03	0.02
	vehicle	0.13	1.34	5.90	0.03	0.52	0.22	0.09	0.92	4.08	0.02	0.36	0.15	0.02	0.17	0.74	0.00	0.07	0.03
	<b>Total 2022</b>	<b>1.10</b>	<b>10.49</b>	<b>14.89</b>	<b>0.06</b>	<b>0.88</b>	<b>0.55</b>	<b>0.50</b>	<b>4.61</b>	<b>7.11</b>	<b>0.03</b>	<b>0.50</b>	<b>0.28</b>	<b>0.09</b>	<b>0.84</b>	<b>1.30</b>	<b>0.01</b>	<b>0.09</b>	<b>0.05</b>
2023	equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	vehicle	0.06	0.53	3.15	0.02	0.29	0.12	0.04	0.36	2.18	0.01	0.20	0.08	0.01	0.04	0.26	0.00	0.02	0.01
	<b>Total 2023</b>	<b>0.06</b>	<b>0.53</b>	<b>3.15</b>	<b>0.02</b>	<b>0.29</b>	<b>0.12</b>	<b>0.04</b>	<b>0.36</b>	<b>2.18</b>	<b>0.01</b>	<b>0.20</b>	<b>0.08</b>	<b>0.01</b>	<b>0.04</b>	<b>0.26</b>	<b>0.00</b>	<b>0.02</b>	<b>0.01</b>
<b>Worst-Case</b>		<b>5.26</b>	<b>76.71</b>	<b>53.21</b>	<b>0.21</b>	<b>3.65</b>	<b>2.63</b>	<b>2.89</b>	<b>46.11</b>	<b>23.52</b>	<b>0.12</b>	<b>1.85</b>	<b>1.35</b>	<b>0.53</b>	<b>8.42</b>	<b>4.29</b>	<b>0.02</b>	<b>0.34</b>	<b>0.25</b>
<b>BAAQMD Construction-Related CEQA Thresholds of Significance</b>		NA	NA	NA	NA	NA	NA	54	54	NA	NA	82	54	NA	NA	NA	NA	NA	NA
<b>Exceeds Threshold?</b>		NA	NA	NA	NA	NA	NA	No	No	NA	NA	No	No	NA	NA	NA	NA	NA	NA

**Construction Emission Summary - GHG, WWTP**

Construction Year	Sources	Annual	
		CO2e	
		ton/year	metric ton/year
2018	equipment	157.8	143.1
	vehicle	113.2	102.7
	<b>Total 2018</b>	<b>270.9</b>	<b>245.8</b>
2019	equipment	585.5	531.2
	vehicle	1693.3	1536.2
	<b>Total 2019</b>	<b>2278.8</b>	<b>2067.3</b>
2020	equipment	447.8	406.2
	vehicle	1726.0	1565.8
	<b>Total 2020</b>	<b>2173.8</b>	<b>1972.0</b>
2021	equipment	363.3	329.6
	vehicle	1515.3	1374.7
	<b>Total 2021</b>	<b>1878.6</b>	<b>1704.3</b>
2022	equipment	169.7	153.9
	vehicle	408.1	370.3
	<b>Total 2022</b>	<b>577.8</b>	<b>524.2</b>
2023	equipment	--	--
	vehicle	147.0	133.3
	<b>Total 2023</b>	<b>147.0</b>	<b>133.3</b>
<b>Worst-Case</b>		<b>2278.8</b>	<b>2067.3</b>



Onsite Equipment Emissions

Onsite Equipment Information and Emission Factors

	Equipment	Operation Data				Emission Factor Year	CalEEMod Default Load Factor	CalEEMod Emission Factors (100% load)								
		Number	HP per equipme	Days per equipme	Hours per day per equipme			ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>	CO <sub>2</sub> e
								g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
2018	Scraper (Site Rough Grading)	1	367	42	6.4	2018	0.48	0.369	4.568	2.828	0.005	0.180	0.166	490.773	0.153	495.057
	Soil Compactor (Site Rough Grading/Lime Stabilization)	1	8	42	6.4	2018	0.43	0.661	4.142	3.470	0.008	0.161	0.161	568.300	0.059	569.952
	D7 Dozer (Site Clearing/Site Rough Grading / Mass Ex)	1	247	42	6.4	2018	0.4	0.669	7.208	2.512	0.005	0.350	0.322	493.634	0.154	497.946
	Large Track Excavator (Demo)	1	158	42	6.4	2018	0.38	0.273	2.924	3.093	0.005	0.142	0.130	490.673	0.153	494.957
	Medium Track Loader (Demo)	2	97	42	6.4	2018	0.37	0.420	4.154	3.692	0.005	0.294	0.271	494.124	0.154	498.436
	Medium Rubber Tire Backhoe (Temporary Utilities)	1	97	63	6.4	2018	0.37	0.420	4.154	3.692	0.005	0.294	0.271	494.124	0.154	498.436
	Drill Rig (CSM Shoring Mixer)	1	221	42	6.4	2018	0.5	0.155	2.153	1.073	0.005	0.061	0.056	484.561	0.151	488.789
	Drill Rig (Shoring H-Pile Driving)	1	221	42	6.4	2018	0.5	0.155	2.153	1.073	0.005	0.061	0.056	484.561	0.151	488.789
	Wheel Loader (CSM Shoring)	1	203	42	6.4	2018	0.36	0.333	4.131	1.346	0.005	0.140	0.129	487.902	0.152	492.158
	Large Forklift (Shoring H-Piles)	1	89	42	6.4	2018	0.2	0.567	5.015	3.858	0.005	0.400	0.368	489.866	0.153	494.150
	Medium Rotary Drilling Rig - Bauer BG-24 (Groundwater)	1	221	42	6.4	2018	0.5	0.155	2.153	1.073	0.005	0.061	0.056	484.561	0.151	488.789
	Water Truck	1	402	42	4	2018	0.38	0.287	3.090	1.560	0.005	0.113	0.104	493.506	0.154	497.818
	Street Sweeper	1	402	42	4	2018	0.38	0.287	3.090	1.560	0.005	0.113	0.104	493.506	0.154	497.818
	2019	Soil Compactor (Site Rough Grading/Lime Stabilization)	1	8	63	6.4	2019	0.43	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
D7 Dozer (Site Clearing/Site Rough Grading / Mass Ex)		1	247	105	6.4	2019	0.40	0.651	6.929	2.459	0.005	0.338	0.311	485.172	0.154	489.484
D7 Dozer (Mass Ex)		1	247	105	6.4	2019	0.4	0.651	6.929	2.459	0.005	0.338	0.311	485.172	0.154	489.484
LargeTrack Excavator (Mass Ex)		1	158	105	6.4	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968
Large Track Excavator (Demo)		1	158	21	6.4	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968
Medium Track Loader (Demo)		2	97	21	6.4	2019	0.37	0.368	3.693	3.638	0.005	0.247	0.227	485.855	0.154	490.167
Medium Rubber Tire Backhoe (Temporary Utilities)		1	97	21	6.4	2019	0.37	0.368	3.693	3.638	0.005	0.247	0.227	485.855	0.154	490.167
Drill Rig (CSM Shoring Mixer)		1	221	21	6.4	2019	0.5	0.143	1.894	1.061	0.005	0.054	0.049	475.790	0.151	480.018
Drill Rig (Shoring H-Pile Driving)		1	221	21	6.4	2019	0.5	0.143	1.894	1.061	0.005	0.054	0.049	475.790	0.151	480.018
Wheel Loader (CSM Shoring)		1	203	21	6.4	2019	0.36	0.309	3.745	1.302	0.005	0.126	0.116	480.100	0.152	484.356
Large Forklift (Shoring H-Piles)		1	89	21	6.4	2019	0.2	0.509	4.550	3.804	0.005	0.352	0.324	482.007	0.153	486.291
Medium Rotary Drilling Rig - Bauer BG-24 (Groundwater Well Drilling)		1	221	21	6.4	2019	0.5	0.143	1.894	1.061	0.005	0.054	0.049	475.790	0.151	480.018
Water Truck		1	402	252	4	2019	0.38	0.263	2.669	1.483	0.005	0.097	0.089	485.383	0.154	489.695
Street Sweeper		1	402	252	4	2019	0.38	0.263	2.669	1.483	0.005	0.097	0.089	485.383	0.154	489.695
Pile Driving Crane/Rig 1		1	231	168	8	2019	0.29	0.427	5.084	1.941	0.005	0.216	0.198	483.462	0.153	487.746
Forklift 1		1	89	168	8	2019	0.2	0.509	4.550	3.804	0.005	0.352	0.324	482.007	0.153	486.291
Pile Driving Crane/Rig 2		1	231	126	8	2019	0.29	0.427	5.084	1.941	0.005	0.216	0.198	483.462	0.153	487.746
Forklift 2		1	89	126	8	2019	0.2	0.509	4.550	3.804	0.005	0.352	0.324	482.007	0.153	486.291
Rotary Driller (pre-drilling)		1	221	168	6.4	2019	0.5	0.143	1.894	1.061	0.005	0.054	0.049	475.790	0.151	480.018
Rubber Tire Backhoe (spoils mgmt)		1	97	168	4	2019	0.37	0.368	3.693	3.638	0.005	0.247	0.227	485.855	0.154	490.167
Medium Track Excavator (Underslab Utilities/Pipe)	1	158	147	5.6	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968	

Onsite Equipment Emissions

	Small Track Excavator (Underslab Utilities/Pipe)	1	158	147	5.6	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968	
	Pile Driving Crane/Rig (Yard Piping)	1	231	63	4	2019	0.29	0.427	5.084	1.941	0.005	0.216	0.198	483.462	0.153	487.746	
	Forklift (Piles)	1	89	63	4	2019	0.2	0.509	4.550	3.804	0.005	0.352	0.324	482.007	0.153	486.291	
	Medium Track Excavator (Yard Piping)	1	158	63	4	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968	
	Large Track Excavator (Yard Piping)	1	158	63	4	2019	0.38	0.246	2.533	3.082	0.005	0.122	0.112	482.684	0.153	486.968	
	Rubber Tire Loader (Yard Piping)	1	203	63	4	2019	0.36	0.309	3.745	1.302	0.005	0.126	0.116	480.100	0.152	484.356	
	Concrete Pumper	1	84	42	5.6	2019	0.74	0.429	3.497	3.449	0.006	0.217	0.217	568.299	0.038	569.363	
2020	Pile Driving Crane/Rig 1	1	231	42	8	2020	0.29	0.384	4.563	1.790	0.005	0.188	0.173	472.949	0.153	477.233	
	Forklift 1	1	89	21	8	2020	0.20	0.459	4.133	3.760	0.005	0.308	0.283	471.529	0.153	475.813	
	Rotary Driller (pre-drilling)	1	221	21	6.4	2020	0.5	0.142	1.807	1.068	0.005	0.052	0.048	466.834	0.151	471.062	
	Rubber Tire Backhoe (spoils mgmt)	1	97	21	4	2020	0.37	0.331	3.326	3.601	0.005	0.210	0.193	475.154	0.154	479.466	
	Medium Track Excavator (Underslab Utilities/Pipe)	1	158	21	5.6	2020	0.38	0.231	2.278	3.086	0.005	0.110	0.102	472.289	0.153	476.573	
	Small Track Excavator (Underslab Utilities/Pipe)	1	158	21	5.6	2020	0.38	0.231	2.278	3.086	0.005	0.110	0.102	472.289	0.153	476.573	
	Water Truck	1	402	252	4	2020	0.38	0.246	2.347	1.414	0.005	0.086	0.079	474.579	0.153	478.863	
	Street Sweeper	1	402	252	4	2020	0.38	0.246	2.347	1.414	0.005	0.086	0.079	474.579	0.153	478.863	
	Pile Driving Crane/Rig (Yard Piping)	1	231	252	4	2020	0.29	0.384	4.563	1.790	0.005	0.188	0.173	472.949	0.153	477.233	
	Forklift (Piles)	1	89	252	4	2020	0.2	0.459	4.133	3.760	0.005	0.308	0.283	471.529	0.153	475.813	
	Medium Track Excavator (Yard Piping)	1	158	252	4	2020	0.38	0.231	2.278	3.086	0.005	0.110	0.102	472.289	0.153	476.573	
	Large Track Excavator (Yard Piping)	1	158	252	4	2020	0.38	0.231	2.278	3.086	0.005	0.110	0.102	472.289	0.153	476.573	
	Rubber Tire Loader (Yard Piping)	1	203	252	4	2020	0.36	0.290	3.421	1.269	0.005	0.114	0.104	469.513	0.152	473.769	
	Pile Driving Crane/Rig (Admin Bldg)	1	231	42	6.4	2020	0.29	0.384	4.563	1.790	0.005	0.188	0.173	472.949	0.153	477.233	
	Forklift (Admin Piles)	1	89	42	6.4	2020	0.2	0.459	4.133	3.760	0.005	0.308	0.283	471.529	0.153	475.813	
	Rubber Tire Backhoe (Admin)	1	97	42	6.4	2020	0.37	0.331	3.326	3.601	0.005	0.210	0.193	475.154	0.154	479.466	
	Rubber Tire Loader (Admin)	1	203	42	6.4	2020	0.36	0.290	3.421	1.269	0.005	0.114	0.104	469.513	0.152	473.769	
	Soil Compactor (Admin Rough Grading)	1	8	42	6.4	2020	0.43	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	569.951	
	Crane - 90 Ton (Admin) put in longer duration	1	231	63	4	2020	0.29	0.384	4.563	1.790	0.005	0.188	0.173	472.949	0.153	477.233	
	Concrete Pumper	1	84	252	5.6	2020	0.74	0.386	3.219	3.432	0.006	0.189	0.189	568.299	0.034	569.251	
	Forklift (Mechanical/Process Equipment)	1	89	63	5.6	2020	0.2	0.459	4.133	3.760	0.005	0.308	0.283	471.529	0.153	475.813	
	Forklift (Electrical)	1	89	63	5.6	2020	0.2	0.459	4.133	3.760	0.005	0.308	0.283	471.529	0.153	475.813	
	Manlift	4	63	42	5.6	2020	0.31	0.115	1.869	3.177	0.005	0.042	0.038	472.114	0.153	476.398	
	2021	Pile Driving Crane/Rig (Yard Piping)	1	231	63	4	2021	0.29	0.349	4.104	1.678	0.005	0.167	0.153	472.906	0.153	477.190
		Forklift (Piles)	1	89	63	4	2021	0.20	0.412	3.756	3.720	0.005	0.267	0.245	471.529	0.153	475.813
		Medium Track Excavator (Yard Piping)	1	158	63	4	2021	0.38	0.216	2.034	3.090	0.005	0.099	0.091	472.359	0.153	476.643
		Large Track Excavator (Yard Piping)	1	158	63	4	2021	0.38	0.216	2.034	3.090	0.005	0.099	0.091	472.359	0.153	476.643
Rubber Tire Loader (Yard Piping)		1	203	63	4	2021	0.36	0.266	2.998	1.240	0.005	0.100	0.092	469.564	0.152	473.820	
Crane - 90 Ton (Admin) put in longer duration		1	231	252	6.4	2021	0.29	0.349	4.104	1.678	0.005	0.167	0.153	472.906	0.153	477.190	
Concrete Pumper		1	84	105	5.6	2021	0.74	0.347	2.928	3.412	0.006	0.162	0.162	568.300	0.031	569.168	
Forklift (Mechanical/Process Equipment)		1	89	252	5.6	2021	0.2	0.412	3.756	3.720	0.005	0.267	0.245	471.529	0.153	475.813	
Forklift (Electrical)		1	89	252	5.6	2021	0.2	0.412	3.756	3.720	0.005	0.267	0.245	471.529	0.153	475.813	
Manlift		4	63	252	5.6	2021	0.31	0.109	1.744	3.176	0.005	0.033	0.031	472.114	0.153	476.398	
Street Sweeper		1	402	252	4	2021	0.38	0.225	1.954	1.338	0.005	0.072	0.066	474.542	0.153	478.826	
Water Truck		1	402	252	4	2021	0.38	0.225	1.954	1.338	0.005	0.072	0.066	474.542	0.153	478.826	
Crane - 90 Ton (Admin) put in longer duration		1	231	189	4	2022	0.29	0.316	3.541	1.602	0.005	0.147	0.135	472.983	0.153	477.267	

**Onsite Equipment Emissions**

2022	Forklift (Mechanical/Process Equipment)	1	89	63	5.6	2022	0.20	0.362	3.360	3.675	0.005	0.223	0.205	471.529	0.153	475.813
	Forklift (Electrical)	1	89	63	5.6	2022	0.2	0.362	3.360	3.675	0.005	0.223	0.205	471.529	0.153	475.813
	Manlift	4	63	63	5.6	2022	0.31	0.105	1.627	3.176	0.005	0.030	0.028	472.114	0.153	476.398
	Water Truck	1	402	189	4	2022	0.38	0.196	1.490	1.247	0.005	0.054	0.050	474.714	0.154	479.026
	Street Sweeper	1	402	189	4	2022	0.38	0.196	1.490	1.247	0.005	0.054	0.050	474.714	0.154	479.026

Assumptions:

1. CO2e were calculated using the following global warming potential (GWP, 100-year GWP from IPCC Fifth Assessment Report , 2014):

CO2 1

CH4 28

N2O 265

4. Load factor and emission factors are from CalEEMod Appendix D: Table 3.4 Offroad Equipment Emission Factors (g/hp-hr) and Table 3.3 OFFROAD Default Horsepower and Load Factors (October 2017)

Onsite Equipment Emissions  
Equipment Emissions

	Onsite Equipment	Maximum Daily Emissions							Annual Emissions							Average Daily Emissions						
		ROG lb/day	NOx lb/day	CO lb/day	SO <sub>2</sub> lb/day	PM <sub>10</sub> lb/day	PM <sub>2.5</sub> lb/day	CO <sub>2e</sub> lb/day	ROG ton/year	NOx ton/year	CO ton/year	SO <sub>2</sub> ton/year	PM <sub>10</sub> ton/year	PM <sub>2.5</sub> ton/year	CO <sub>2e</sub> ton/year	ROG lb/day	NOx lb/day	CO lb/day	SO <sub>2</sub> lb/day	PM <sub>10</sub> lb/day	PM <sub>2.5</sub> lb/day	CO <sub>2e</sub> lb/day
2018	Scraper (Site Rough Grading)	0.92	11.35	7.03	0.01	0.45	0.41	1,230.47	0.02	0.24	0.15	0.00	0.01	0.01	25.84	0.32	3.91	2.42	0.00	0.15	0.14	423.60
	Soil Compactor (Site Rough)	0.03	0.20	0.17	0.00	0.01	0.01	27.66	0.00	0.00	0.00	0.00	0.00	0.58	0.01	0.07	0.06	0.00	0.00	0.00	9.52	
	D7 Dozer (Site Clearing/Site Rough)	0.93	10.05	3.50	0.01	0.49	0.45	694.14	0.02	0.21	0.07	0.00	0.01	0.01	14.58	0.32	3.46	1.21	0.00	0.17	0.15	238.97
	Large Track Excavator	0.23	2.48	2.62	0.00	0.12	0.11	419.29	0.00	0.05	0.06	0.00	0.00	0.00	8.81	0.08	0.85	0.90	0.00	0.04	0.04	144.35
	Medium Track Loader	0.43	4.21	3.74	0.01	0.30	0.27	504.80	0.01	0.09	0.08	0.00	0.01	0.01	10.60	0.15	1.45	1.29	0.00	0.10	0.09	173.78
	Medium Rubber Tire	0.21	2.10	1.87	0.00	0.15	0.14	252.40	0.01	0.07	0.06	0.00	0.00	0.00	7.95	0.11	1.09	0.97	0.00	0.08	0.07	130.34
	Drill Rig (CSM Shoring Mixer)	0.24	3.36	1.67	0.01	0.10	0.09	762.06	0.01	0.07	0.04	0.00	0.00	0.00	16.00	0.08	1.16	0.58	0.00	0.03	0.03	262.35
	Drill Rig (Shoring H-Pile)	0.24	3.36	1.67	0.01	0.10	0.09	762.06	0.01	0.07	0.04	0.00	0.00	0.00	16.00	0.08	1.16	0.58	0.00	0.03	0.03	262.35
	Wheel Loader (CSM Shoring)	0.34	4.26	1.39	0.01	0.14	0.13	507.47	0.01	0.09	0.03	0.00	0.00	0.00	10.66	0.12	1.47	0.48	0.00	0.05	0.05	174.70
	Large Forklift (Shoring H-)	0.14	1.26	0.97	0.00	0.10	0.09	124.10	0.00	0.03	0.02	0.00	0.00	0.00	2.61	0.05	0.43	0.33	0.00	0.03	0.03	42.72
	Medium Rotary Drilling Rig -	0.24	3.36	1.67	0.01	0.10	0.09	762.06	0.01	0.07	0.04	0.00	0.00	0.00	16.00	0.08	1.16	0.58	0.00	0.03	0.03	262.35
	Water Truck	0.39	4.16	2.10	0.01	0.15	0.14	670.61	0.01	0.09	0.04	0.00	0.00	0.00	14.08	0.13	1.43	0.72	0.00	0.05	0.05	230.86
	Street Sweeper	0.39	4.16	2.10	0.01	0.15	0.14	670.61	0.01	0.09	0.04	0.00	0.00	0.00	14.08	0.13	1.43	0.72	0.00	0.05	0.05	230.86
2019 Daily Overlap 1 (January)	Large Track Excavator	0.21	2.15	2.61	0.00	0.10	0.09	412.52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Medium Track Loader	0.37	3.74	3.68	0.01	0.25	0.23	496.43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Medium Rubber Tire	0.19	1.87	1.84	0.00	0.13	0.11	248.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Drill Rig (CSM Shoring Mixer)	0.22	2.95	1.65	0.01	0.08	0.08	748.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Drill Rig (Shoring H-Pile)	0.22	2.95	1.65	0.01	0.08	0.08	748.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Wheel Loader (CSM Shoring)	0.32	3.86	1.34	0.01	0.13	0.12	499.42	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Large Forklift (Shoring H-)	0.13	1.14	0.96	0.00	0.09	0.08	122.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Medium Rotary Drilling Rig -	0.22	2.95	1.65	0.01	0.08	0.08	748.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Water Truck	0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Street Sweeper	0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2019 Daily Overlap 2 (June)	Soil Compactor (Site Rough)	0.03	0.20	0.17	0.00	0.01	0.01	27.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	D7 Dozer (Site Clearing/Site)	0.91	9.66	3.43	0.01	0.47	0.43	682.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	D7 Dozer (Mass Ex)	0.91	9.66	3.43	0.01	0.47	0.43	682.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	LargeTrack Excavator (Mass)	0.21	2.15	2.61	0.00	0.10	0.09	412.52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Water Truck	0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Street Sweeper	0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pile Driving Crane/Rig 1	0.50	6.01	2.29	0.01	0.26	0.23	576.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Forklift 1	0.16	1.43	1.19	0.00	0.11	0.10	152.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rotary Driller (pre-drilling)	0.22	2.95	1.65	0.01	0.08	0.08	748.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rubber Tire Backhoe (spoils)	0.12	1.17	1.15	0.00	0.08	0.07	155.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Medium Track Excavator	0.18	1.88	2.28	0.00	0.09	0.08	360.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Small Track Excavator	0.18	1.88	2.28	0.00	0.09	0.08	360.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019 Daily Overlap 3 (December)	Water Truck	0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Street Sweeper		0.35	3.59	2.00	0.01	0.13	0.12	659.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pile Driving Crane/Rig 1		0.50	6.01	2.29	0.01	0.26	0.23	576.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Forklift 1		0.16	1.43	1.19	0.00	0.11	0.10	152.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pile Driving Crane/Rig 2		0.50	6.01	2.29	0.01	0.26	0.23	576.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Forklift 2		0.16	1.43	1.19	0.00	0.11	0.10	152.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rotary Driller (pre-drilling)		0.22	2.95	1.65	0.01	0.08	0.08	748.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rubber Tire Backhoe (spoils)		0.12	1.17	1.15	0.00	0.08	0.07	155.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Medium Track Excavator		0.18	1.88	2.28	0.00	0.09	0.08	360.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Small Track Excavator		0.18	1.88	2.28	0.00	0.09	0.08	360.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pile Driving Crane/Rig (Yard)		0.25	3.00	1.15	0.00	0.13	0.12	288.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Forklift (Piles)		0.08	0.71	0.60	0.00	0.06	0.05	76.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Medium Track Excavator		0.13	1.34	1.63	0.00	0.06	0.06	257.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Large Track Excavator (Yard)	0.13	1.34	1.63	0.00	0.06	0.06	257.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Rubber Tire Loader (Yard)	0.20	2.41	0.84	0.00	0.08	0.07	312.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Concrete Pumper	0.33	2.68	2.65	0.00	0.17	0.17	436.93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2019 Annual	Soil Compactor (Site Rough)	NA	NA	NA	NA	NA	NA	NA	0.00	0.01	0.01	0.00	0.00	0.00	0.87	0.01	0.03	0.03	0.00	0.00	0.00	4.77
	D7 Dozer (Site Clearing/Site)	NA	NA	NA	NA	NA	NA	NA	0.05	0.51	0.18	0.00	0.02	0.02	35.82	0.26	2.78	0.99	0.00	0.14	0.12	196.29
	D7 Dozer (Mass Ex)	NA	NA	NA	NA	NA	NA	NA	0.05	0.51	0.18	0.00	0.02	0.02	35.82	0.26	2.78	0.99	0.00	0.14	0.12	196.29
	LargeTrack Excavator (Mass)	NA	NA	NA	NA	NA	NA	NA	0.01	0.11	0.14	0.00	0.01	0.00	21.66	0.06	0.62	0.75	0.00	0.03	0.03	118.67
	Large Track Excavator	NA	NA	NA	NA	NA	NA	NA	0.00	0.02	0.03	0.00	0.00	0.00	4.33	0.01	0.12	0.15	0.00	0.01	0.01	23.73
	Medium Track Loader	NA	NA	NA	NA	NA	NA	NA	0.00	0.04	0.04	0.00	0.00	0.00	5.21	0.02	0.22	0.21	0.00	0.01	0.01	28.56
	Medium Rubber Tire	NA	NA	NA	NA	NA	NA	NA	0.00	0.02	0.02	0.00	0.00	0.00	2.61	0.01	0.11	0.11	0.00	0.01	0.01	14.28
	Drill Rig (CSM Shoring Mixer)	NA	NA	NA	NA	NA	NA	NA	0.00	0.03	0.02	0.00	0.00	0.00	7.86	0.01	0.17	0.10	0.00	0.00	0.00	43.06
	Drill Rig (Shoring H-Pile)	NA	NA	NA	NA	NA	NA	NA	0.00	0.03	0.02	0.00	0.00	0.00	7.86	0.01	0.17	0.10	0.00	0.00	0.00	43.06
	Wheel Loader (CSM Shoring)	NA	NA	NA	NA	NA	NA	NA	0.00	0.04	0.01	0.00	0.00	0.00	5.24	0.02	0.22	0.08	0.00	0.01	0.01	28.73
	Large Forklift (Shoring H-)	NA	NA	NA	NA	NA	NA	NA	0.00	0.01	0.01	0.00	0.00	0.00	1.28	0.01	0.07	0.05	0.00	0.01	0.00	7.03
	Medium Rotary Drilling Rig -	NA	NA	NA	NA	NA	NA	NA	0.00	0.03	0.02	0.00	0.00	0.00	7.86	0.01	0.17	0.10	0.00	0.00	0.00	43.06
	Water Truck	NA	NA	NA	NA	NA	NA	NA	0.04	0.45	0.25	0.00	0.02	0.02	83.12	0.24	2.48	1.38	0.00	0.09	0.08	455.44
	Street Sweeper	NA																				

Onsite Equipment Emissions

	Rotary Driller (pre-drilling)	NA	NA	NA	NA	NA	NA	NA	0.02	0.25	0.14	0.00	0.01	0.01	62.86	0.10	1.36	0.76	0.00	0.04	0.04	344.46	
	Rubber Tire Backhoe (spoils)	NA	NA	NA	NA	NA	NA	NA	0.01	0.10	0.10	0.00	0.01	0.01	13.03	0.05	0.54	0.53	0.00	0.04	0.03	71.40	
	Medium Track Excavator	NA	NA	NA	NA	NA	NA	NA	0.01	0.14	0.17	0.00	0.01	0.01	26.53	0.07	0.76	0.92	0.00	0.04	0.03	145.37	
	Small Track Excavator	NA	NA	NA	NA	NA	NA	NA	0.01	0.14	0.17	0.00	0.01	0.01	26.53	0.07	0.76	0.92	0.00	0.04	0.03	145.37	
	Pile Driving Crane/Rig (Yard)	NA	NA	NA	NA	NA	NA	NA	0.01	0.09	0.04	0.00	0.00	0.00	9.08	0.04	0.52	0.20	0.00	0.02	0.02	49.73	
	Forklift (Piles)	NA	NA	NA	NA	NA	NA	NA	0.00	0.02	0.02	0.00	0.00	0.00	2.40	0.01	0.12	0.10	0.00	0.01	0.01	13.18	
	Medium Track Excavator	NA	NA	NA	NA	NA	NA	NA	0.00	0.04	0.05	0.00	0.00	0.00	8.12	0.02	0.23	0.28	0.00	0.01	0.01	44.50	
	Large Track Excavator (Yard)	NA	NA	NA	NA	NA	NA	NA	0.00	0.04	0.05	0.00	0.00	0.00	8.12	0.02	0.23	0.28	0.00	0.01	0.01	44.50	
	Rubber Tire Loader (Yard)	NA	NA	NA	NA	NA	NA	NA	0.01	0.08	0.03	0.00	0.00	0.00	9.83	0.03	0.42	0.14	0.00	0.01	0.01	53.88	
	Concrete Pumper	NA	NA	NA	NA	NA	NA	NA	0.01	0.06	0.06	0.00	0.00	0.00	9.18	0.04	0.31	0.30	0.00	0.02	0.02	50.28	
2020	Pile Driving Crane/Rig 1	0.45	5.39	2.12	0.01	0.22	0.20	563.84	0.01	0.11	0.04	0.00	0.00	0.00	11.84	0.05	0.62	0.24	0.00	0.03	0.02	64.88	
	Forklift 1	0.14	1.30	1.18	0.00	0.10	0.09	149.37	0.00	0.01	0.01	0.00	0.00	0.00	1.57	0.01	0.07	0.07	0.00	0.01	0.01	8.59	
	Rotary Driller (pre-drilling)	0.22	2.82	1.66	0.01	0.08	0.07	734.43	0.00	0.03	0.02	0.00	0.00	0.00	7.71	0.01	0.16	0.10	0.00	0.00	0.00	42.25	
	Rubber Tire Backhoe (spoils)	0.10	1.05	1.14	0.00	0.07	0.06	151.75	0.00	0.01	0.01	0.00	0.00	0.00	1.59	0.01	0.06	0.07	0.00	0.00	0.00	8.73	
	Medium Track Excavator	0.17	1.69	2.29	0.00	0.08	0.08	353.25	0.00	0.02	0.02	0.00	0.00	0.00	3.71	0.01	0.10	0.13	0.00	0.00	0.00	20.32	
	Small Track Excavator	0.17	1.69	2.29	0.00	0.08	0.08	353.25	0.00	0.02	0.02	0.00	0.00	0.00	3.71	0.01	0.10	0.13	0.00	0.00	0.00	20.32	
	Water Truck	0.33	3.16	1.91	0.01	0.12	0.11	645.07	0.04	0.40	0.24	0.00	0.01	0.01	81.28	0.23	2.18	1.32	0.00	0.08	0.07	445.36	
	Street Sweeper	0.33	3.16	1.91	0.01	0.12	0.11	645.07	0.04	0.40	0.24	0.00	0.01	0.01	81.28	0.23	2.18	1.32	0.00	0.08	0.07	445.36	
	Pile Driving Crane/Rig (Yard)	0.23	2.70	1.06	0.00	0.11	0.10	281.92	0.03	0.34	0.13	0.00	0.01	0.01	35.52	0.16	1.86	0.73	0.00	0.08	0.07	194.64	
	Forklift (Piles)	0.07	0.65	0.59	0.00	0.05	0.04	74.69	0.01	0.08	0.07	0.00	0.01	0.01	9.41	0.05	0.45	0.41	0.00	0.03	0.03	51.56	
	Medium Track Excavator	0.12	1.21	1.63	0.00	0.06	0.05	252.32	0.02	0.15	0.21	0.00	0.01	0.01	31.79	0.08	0.83	1.13	0.00	0.04	0.04	174.21	
	Large Track Excavator (Yard)	0.12	1.21	1.63	0.00	0.06	0.05	252.32	0.02	0.15	0.21	0.00	0.01	0.01	31.79	0.08	0.83	1.13	0.00	0.04	0.04	174.21	
	Rubber Tire Loader (Yard)	0.19	2.20	0.82	0.00	0.07	0.07	305.32	0.02	0.28	0.10	0.00	0.01	0.01	38.47	0.13	1.52	0.56	0.00	0.05	0.05	210.79	
	Pile Driving Crane/Rig	0.36	4.31	1.69	0.00	0.18	0.16	451.07	0.01	0.09	0.04	0.00	0.00	0.00	9.47	0.04	0.50	0.19	0.00	0.02	0.02	51.90	
	Forklift (Admin Piles)	0.12	1.04	0.94	0.00	0.08	0.07	119.50	0.00	0.02	0.02	0.00	0.00	0.00	2.51	0.01	0.12	0.11	0.00	0.01	0.01	13.75	
	Rubber Tire Backhoe (Admin)	0.17	1.68	1.82	0.00	0.11	0.10	242.79	0.00	0.04	0.04	0.00	0.00	0.00	5.10	0.02	0.19	0.21	0.00	0.01	0.01	27.94	
	Rubber Tire Loader (Admin)	0.30	3.53	1.31	0.01	0.12	0.11	488.51	0.01	0.07	0.03	0.00	0.00	0.00	10.26	0.03	0.41	0.15	0.00	0.01	0.01	56.21	
	Soil Compactor (Admin)	0.03	0.20	0.17	0.00	0.01	0.01	27.66	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.02	0.02	0.00	0.00	0.00	3.18	
	Crane - 90 Ton (Admin) put	0.23	2.70	1.06	0.00	0.11	0.10	281.92	0.01	0.08	0.03	0.00	0.00	0.00	8.88	0.04	0.47	0.18	0.00	0.02	0.02	48.66	
	Concrete Pumper	0.30	2.47	2.63	0.00	0.15	0.15	436.85	0.04	0.31	0.33	0.00	0.02	0.02	55.04	0.20	1.71	1.82	0.00	0.10	0.10	301.60	
	Forklift (Mechanical/Process)	0.10	0.91	0.83	0.00	0.07	0.06	104.56	0.00	0.03	0.03	0.00	0.00	0.00	3.29	0.02	0.16	0.14	0.00	0.01	0.01	18.05	
	Forklift (Electrical)	0.10	0.91	0.83	0.00	0.07	0.06	104.56	0.00	0.03	0.03	0.00	0.00	0.00	3.29	0.02	0.16	0.14	0.00	0.01	0.01	18.05	
	Manlift	0.11	1.80	3.06	0.00	0.04	0.04	459.46	0.00	0.04	0.06	0.00	0.00	0.00	9.65	0.01	0.21	0.35	0.00	0.00	0.00	52.87	
	2021	Pile Driving Crane/Rig (Yard)	0.21	2.42	0.99	0.00	0.10	0.09	281.90	0.01	0.08	0.03	0.00	0.00	0.00	8.88	0.04	0.42	0.17	0.00	0.02	0.02	48.66
		Forklift (Piles)	0.06	0.59	0.58	0.00	0.04	0.04	74.69	0.00	0.02	0.02	0.00	0.00	0.00	2.35	0.01	0.10	0.10	0.00	0.01	0.01	12.89
		Medium Track Excavator (Yard)	0.11	1.08	1.64	0.00	0.05	0.05	252.36	0.00	0.03	0.05	0.00	0.00	0.00	7.95	0.02	0.19	0.28	0.00	0.01	0.01	43.56
		Large Track Excavator (Yard)	0.11	1.08	1.64	0.00	0.05	0.05	252.36	0.00	0.03	0.05	0.00	0.00	0.00	7.95	0.02	0.19	0.28	0.00	0.01	0.01	43.56
Rubber Tire Loader (Yard)		0.17	1.93	0.80	0.00	0.06	0.06	305.35	0.01	0.06	0.03	0.00	0.00	0.00	9.62	0.03	0.33	0.14	0.00	0.01	0.01	52.70	
Crane - 90 Ton (Admin) put		0.33	3.88	1.59	0.00	0.16	0.14	451.03	0.04	0.49	0.20	0.00	0.02	0.02	56.83	0.23	2.68	1.10	0.00	0.11	0.10	311.40	
Concrete Pumper		0.27	2.25	2.62	0.00	0.12	0.12	436.78	0.01	0.12	0.14	0.00	0.01	0.01	22.93	0.08	0.65	0.75	0.00	0.04	0.04	125.65	
Forklift (Mechanical/Process)		0.09	0.83	0.82	0.00	0.06	0.05	104.56	0.01	0.10	0.10	0.00	0.01	0.01	13.17	0.06	0.57	0.56	0.00	0.04	0.04	72.19	
Forklift (Electrical)		0.09	0.83	0.82	0.00	0.06	0.05	104.56	0.01	0.10	0.10	0.00	0.01	0.01	13.17	0.06	0.57	0.56	0.00	0.04	0.04	72.19	
Manlift		0.11	1.68	3.06	0.00	0.03	0.03	459.46	0.01	0.21	0.39	0.00	0.00	0.00	57.89	0.07	1.16	2.11	0.00	0.02	0.02	317.22	
Street Sweeper		0.30	2.63	1.80	0.01	0.10	0.09	645.02	0.04	0.33	0.23	0.00	0.01	0.01	81.27	0.21	1.82	1.24	0.00	0.07	0.06	445.33	
Water Truck		0.30	2.63	1.80	0.01	0.10	0.09	645.02	0.04	0.33	0.23	0.00	0.01	0.01	81.27	0.21	1.82	1.24	0.00	0.07	0.06	445.33	
2022		Crane - 90 Ton (Admin) put	0.19	2.09	0.95	0.00	0.09	0.08	281.94	0.02	0.20	0.09	0.00	0.01	0.01	26.64	0.10	1.08	0.49	0.00	0.04	0.04	145.99
	Forklift (Mechanical/Process)	0.08	0.74	0.81	0.00	0.05	0.05	104.56	0.00	0.02	0.03	0.00	0.00	0.00	3.29	0.01	0.13	0.14	0.00	0.01	0.01	18.05	
	Forklift (Electrical)	0.08	0.74	0.81	0.00	0.05	0.05	104.56	0.00	0.02	0.03	0.00	0.00	0.00	3.29	0.01	0.13	0.14	0.00	0.01	0.01	18.05	
	Manlift	0.10	1.57	3.06	0.00	0.03	0.03	459.46	0.00	0.05	0.10	0.00	0.00	0.00	14.47	0.02	0.27	0.53	0.00	0.00	0.00	79.30	
	Water Truck	0.26	2.01	1.68	0.01	0.07	0.07	645.29	0.02	0.19	0.16	0.00	0.01	0.01	60.98	0.14	1.04	0.87	0.00	0.04	0.03	334.14	
	Street Sweeper	0.26	2.01	1.68	0.01	0.07	0.07	645.29	0.02	0.19	0.16	0.00	0.01	0.01	60.98	0.14	1.04	0.87	0.00	0.04	0.03	334.14	
Total 2018	4.74	54.30	30.51	0.07	2.34	2.16	7387.73	0.10	1.16	0.66	0.00	0.05	0.05	157.79	1.67	19.06	10.82	0.03	0.83	0.77	2586.76		
Total 2019	4.13	44.17	26.84	0.06	2.02	1.86	6031.80	0.40	4.32	2.49	0.01	0.19	0.18	585.50	2.20	23.64	13.65	0.03	1.07	0.98	3208.22		
Total 2020	4.47	47.77	34.56	0.08	2.13	1.97	7479.49	0.27	2.72	1.94	0.00	0.12	0.11	447.76	1.46	14.90	10.65	0.03	0.65	0.61	2453.47		
Total 2021	2.16	21.82	18.15	0.04	0.94	0.87	4013.09	0.19	1.91	1.56	0.00	0.08	0.07	363.30	1.04	10.48	8.56	0.02	0.44	0.40	1990.67		
Total 2022	0.98	9.15	8.98	0.02	0.36	0.33	2241.10	0.08	0.67	0.55	0.00	0.03	0.02	169.66	0.42	3.69	3.04	0.01	0.14	0.13	929.66		

Note: Maximum daily emissions in 2019 are calculated as the maximum daily emissions of the three different worst case equipment overlap months

Number of days

	Months in construction:	Working Days	Total # Days
2018	4	84	122
2019	12	252	365
2020	12	252	365
2021	12	252	365
2022	12	252	365
2023	8	168	243

**Vehicle Emissions**

**Vehicle Emission Factors (EMFAC2014)**

		ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
		g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
vehicle 2018	Worker Commute	0.015	0.076	0.713	0.003	0.047	0.019	310.12
	Delivery/Haul Trucks	0.171	6.402	1.168	0.018	0.127	0.066	1990.54
vehicle 2019	Worker Commute	0.013	0.068	0.647	0.003	0.047	0.019	300.87
	Delivery/Haul Trucks	0.165	6.020	1.212	0.017	0.124	0.063	1960.76
vehicle 2020	Worker Commute	0.012	0.061	0.598	0.003	0.047	0.019	291.66
	Delivery/Haul Trucks	0.148	5.494	1.213	0.017	0.116	0.055	1930.28
vehicle 2021	Worker Commute	0.011	0.055	0.561	0.003	0.046	0.019	281.62
	Delivery/Haul Trucks	0.142	4.986	1.245	0.017	0.114	0.053	1897.88
vehicle 2022	Worker Commute	0.010	0.051	0.530	0.003	0.046	0.019	271.61
	Delivery/Haul Trucks	0.135	4.510	1.274	0.016	0.112	0.051	1865.12
vehicle 2023	Worker Commute	0.009	0.047	0.501	0.003	0.046	0.019	261.63
	Delivery/Haul Trucks	0.090	2.748	1.229	0.015	0.102	0.042	1790.94

**Note:**

Vehicle emission factors were obtained from EMFAC2014:

Region: San Mateo

Speed and model year: aggregated

EMFACT2014 does not provide emissions of N2O and CH4 from vehicles. CO2e emissions were assumed to be the same as CO2.

Worker commute vehicles include auto and light duty trucks.

Delivery/Haul trucks include heavy heavy duty diesel trucks.

**Vehicle Emissions**

	Number	Trips/day	miles/trip	working days	Maximum Daily Emissions							Annual Emissions							Average Daily Emissions						
					ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e	ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e	ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
					lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
vehicle 2018	Worker Commute	40	60	84	0.08	0.40	3.77	0.02	0.25	0.10	1640.87	0.00	0.02	0.16	0.00	0.01	0.00	68.92	0.06	0.28	2.60	0.01	0.17	0.07	1129.78
	Delivery/Haul Trucks	6	40	84	0.09	3.39	0.62	0.01	0.07	0.03	1053.20	0.00	0.14	0.03	0.00	0.00	0.00	44.23	0.06	2.33	0.43	0.01	0.05	0.02	725.15
vehicle 2019	Worker Commute	77	60	252	0.13	0.69	6.59	0.03	0.47	0.20	3064.45	0.02	0.09	0.83	0.00	0.06	0.02	386.12	0.09	0.48	4.55	0.02	0.33	0.14	2115.73
	Delivery/Haul Trucks	60	40	252	0.87	31.85	6.41	0.09	0.66	0.33	10374.38	0.11	4.01	0.81	0.01	0.08	0.04	1307.17	0.60	21.99	4.43	0.06	0.45	0.23	7162.59
vehicle 2020	Worker Commute	183	60	252	0.28	1.48	14.47	0.07	1.13	0.47	7059.92	0.04	0.19	1.82	0.01	0.14	0.06	889.55	0.19	1.02	9.99	0.05	0.78	0.32	4874.24
	Delivery/Haul Trucks	39	40	252	0.51	18.89	4.17	0.06	0.40	0.19	6638.53	0.06	2.38	0.53	0.01	0.05	0.02	836.46	0.35	13.04	2.88	0.04	0.28	0.13	4583.32
vehicle 2021	Worker Commute	224	60	252	0.31	1.64	16.62	0.08	1.38	0.57	8344.33	0.04	0.21	2.09	0.01	0.17	0.07	1051.39	0.22	1.13	11.47	0.06	0.95	0.40	5761.02
	Delivery/Haul Trucks	22	40	252	0.27	9.67	2.42	0.03	0.22	0.10	3681.95	0.03	1.22	0.30	0.00	0.03	0.01	463.93	0.19	6.68	1.67	0.02	0.15	0.07	2542.06
vehicle 2022	Worker Commute	81	60	252	0.10	0.54	5.68	0.03	0.50	0.21	2910.15	0.01	0.07	0.72	0.00	0.06	0.03	366.68	0.07	0.37	3.92	0.02	0.34	0.14	2009.20
	Delivery/Haul Trucks	2	40	252	0.02	0.80	0.22	0.00	0.02	0.01	328.94	0.00	0.10	0.03	0.00	0.00	0.00	41.45	0.02	0.55	0.16	0.00	0.01	0.01	227.11
vehicle 2023	Worker Commute	46	60	168	0.05	0.28	3.05	0.02	0.28	0.12	1591.91	0.00	0.02	0.26	0.00	0.02	0.01	133.72	0.04	0.20	2.11	0.01	0.20	0.08	1100.58
	Delivery/Haul Trucks	1	40	168	0.01	0.24	0.11	0.00	0.01	0.00	157.93	0.00	0.02	0.01	0.00	0.00	0.00	13.27	0.01	0.17	0.07	0.00	0.01	0.00	109.19
Total 2018					0.17	3.79	4.39	0.03	0.31	0.14	2694.06	0.01	0.16	0.18	0.00	0.01	0.01	113.15	0.12	2.61	3.02	0.02	0.22	0.09	1854.93
Total 2019					1.01	32.55	13.00	0.12	1.13	0.53	13438.83	0.13	4.10	1.64	0.02	0.14	0.07	1693.29	0.69	22.47	8.98	0.08	0.78	0.37	9278.32
Total 2020					0.79	20.37	18.64	0.13	1.53	0.66	13698.45	0.10	2.57	2.35	0.02	0.19	0.08	1726.00	0.55	14.07	12.87	0.09	1.05	0.46	9457.56
Total 2021					0.59	11.32	19.04	0.12	1.60	0.68	12026.29	0.07	1.43	2.40	0.01	0.20	0.09	1515.31	0.41	7.81	13.14	0.08	1.10	0.47	8303.08
Total 2022					0.13	1.34	5.90	0.03	0.52	0.22	3239.09	0.02	0.17	0.74	0.00	0.07	0.03	408.13	0.09	0.92	4.08	0.02	0.36	0.15	2236.31
Total 2023					0.06	0.53	3.15	0.02	0.29	0.12	1749.84	0.01	0.04	0.26	0.00	0.02	0.01	146.99	0.04	0.36	2.18	0.01	0.20	0.08	1209.77

**Note:**

	Total Working Days	Total Days/Year
2018	4	84
2019	12	252
2020	12	252
2021	12	252
2022	12	252
2023	8	168

### San Mateo WWTP Emission Estimates - Diesel Fueled Engines

Pollutant	Emission Factor in g/bhp-hr	hr/yr	bhp	g/hr (One Engine)	ton/yr (One Engine)	g/hr (Four Engines)	ton/yr (Four Engines)
NOx	3.84	50	1141	4,381.4	0.24	17,525.8	0.97
HC	0.08	50	1411	112.9	0.01	451.5	0.02
CO	0.9	50	1411	1,269.9	0.07	5,079.6	0.28
PM	0.07	50	1411	98.8	0.01	395.1	0.02

Source of Emission Factors (Emissions Data): Manufacturer's Performance Data: "D2 Cycle Cert Levels" for 750 kW Standby Engine, Year 2016, Peterson Power Systems, Caterpillar, Model C27. Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance. Limited to a maximum of 50 hr/yr per engine.

<b>San Mateo WWTP GHG Emission Estimates</b>							
Pollutant	Emission Factor in kg/gal	hr/yr	Fuel Use in gal/hr	Global Warming Potential	kg/yr (One Engine)	Metric Ton/yr (One Engine)	Metric Ton/yr (Four Engines)
CO <sub>2</sub>	10.21	50	53.6	1	27,362.8	27.36	109.45
CH <sub>4</sub>	0.41	50	53.6	25	1,098.8	1.10	4.40
N <sub>2</sub> O	0.008	50	53.6	298	21.4	0.02	0.09
<b>CO<sub>2</sub>e Total</b>						<b>28.48</b>	<b>113.93</b>

Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance. Limited to a maximum of 50 hr/yr per engine.

Emission Factors from: United States Environmental Protection Agency (EPA). 2016. Greenhouse Gas Inventory Guidance, Direct Emissions from Stationary Combustion Sources. EPA Center for Corporate Climate Leadership. January. Available online at: [https://www.epa.gov/sites/production/files/2016-03/documents/stationaryemissions\\_3\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-03/documents/stationaryemissions_3_2016.pdf)

Global Warming Potential values from: Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis, IPCC Working Group 1 Contribution to the Fourth Assessment Report of the IPCC. Available online at: [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg1\\_report\\_the\\_physical\\_science\\_basis.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm)





## MANUFACTURER'S PERFORMANCE DATA

MODEL: C27 DITA ATAAC DRY MANIFOLD  
 DISPLACEMENT: 1,650 CU. IN.  
 DATA REF NO.: DM9071-02  
 GENSET RATING (W/F FAN): 750.0 EKW STANDBY 60 HERTZ @ 1800 RPM  
 CERTIFICATION YEAR: 2016 CERT AGENCY: EPA  
 SERVICE CLASS: STATIONARY EMERGENCY >560 BKW

### GENERAL PERFORMANCE DATA

GEN	ENG	FUEL	FUEL	EXHAUST	EXHAUST	O2 (DRY)	H2O
W/F	PWR	RATE	RATE	STACK TEMP	GAS FLOW	IN EXH	IN EXH
EKW	BHP	LB/BHP-HR	GPH	DEG F	CFM	(VOL)	(VOL)
						%	%
750.0	1141	0.329	53.6	948.7	5610.2	TBD	TBD

### EMISSIONS DATA

Gaseous emissions data measurements are consistent with those described in EPA 40 CFR PART 89 SUBPART D and ISO 8178 for measuring HC, CO, PM, and NOx.

Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance with the following non-road regulations:

EPA and CARB Tier 2

MAX Limit - GM/HP-HR		
CO	NOX + HC	PM
2.6	4.8	0.15

EPA ENGINE FAMILY NAME: GCPXL27.0NZS

"D2 CYCLE CERT LEVELS" for the engine family are:

GM/HP-HR				
CO	HC	NOX	NOX + HC	PM
0.9	0.08	3.84	3.95	0.07

### CALCULATION OF SOX

$$\text{SOX} = 2.997\text{E-}5 * \text{FUEL RATE (LB//HR)}$$



Attachment 2  
U.S. Fish and Wildlife Service, Informal  
Section 7 Consultation for the  
Proposed San Mateo Wastewater  
Treatment Plant Upgrade Project





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
San Francisco Bay-Delta Fish and Wildlife Office  
650 Capitol Mall, Suite 8-300  
Sacramento, California 95814



In reply refer to:  
08FBDT00-2016-I-0231

FEB 21 2017

Ms. Holly Costa  
Acting Chief, Regulatory Division  
U.S. Army Corps of Engineers  
San Francisco District  
1455 Market Street, 16<sup>th</sup> Floor  
San Francisco, California 94103-1398

Subject: Informal Section 7 Consultation for the Proposed San Mateo Wastewater Treatment Plant Upgrade Project, San Mateo, California (Corps File No. 2016-00141S)

Dear Ms. Costa:

This letter is in response to the U.S. Army Corps of Engineers' (Corps) June 2, 2016 request to initiate informal consultation with the U.S. Fish and Wildlife Service (Service) for the proposed San Mateo Wastewater Treatment Plant Upgrade Project, San Mateo, California (proposed project). The Corps' request was received by the Service on June 6, 2016. The Corps has determined that this project may affect, but is not likely to adversely affect, the federally endangered California clapper rail (*Rallus longirostris obsoletus*). Regarding taxonomic assignment and nomenclature for the California clapper rail, until a time when the Service officially adopts changes made by the American Ornithologists' Union (from California clapper rail [*Rallus longirostris obsoletus*] to Ridgway's Rail [*Rallus obsoletus*]), the Service maintains the use of California clapper rail (*Rallus longirostris obsoletus*) as used in this current correspondence. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

In reviewing this project, the Service has relied upon: (1) the Corps' June 2, 2016 letter requesting consultation; (2) the City of San Mateo's May 2016 *Federal Endangered Species Act Biological Assessment for the City of San Mateo Clean Water Program – WWTP Upgrade Project*; (3) electronic mail and other communication between the Corps, their applicant, and the Service; and (4) other information available to the Service.

The purpose of the proposed project is to upgrade and expand the San Mateo wastewater treatment plant to meet current and anticipated future regulatory requirements and to better manage wet weather flows as part of the City's Clean Water Program. The proposed project site is located along the northeastern boundary of the city along the southern edge of San Francisco Bay (separated by Joinville Park Road), and is bounded by Detroit Drive on the south and west sides, and Joinville Park Road on the north and east sides. The existing San Mateo wastewater treatment plant is located directly south of the proposed project site.

The proposed project involves grading a 6.3-acre parcel in preparation for the expansion of the existing treatment plant. Over half of the proposed project site is absent habitat, being comprised of a parking lot and a fenced storage area with a storage tank and warehouse building. The remainder of the site includes ornamental trees, a mostly upland ruderal field, and a 0.14-acre seasonal emergent wetland.

Proposed improvements are expected to include replacement of failing influent junction box and primary clarifiers, construction of a headworks with grit and screening, improvements to, or replacement of, the secondary treatment facilities, construction of an equalization storage basin, and rehabilitation of other aging infrastructure. A 0.14-acre seasonal emergent wetland located on the south end of Detroit Drive would be permanently filled. To mitigate for this permanent loss of wetlands, the City of San Mateo would purchase credits from the San Francisco Bay Wetlands Mitigation Bank, per the Corps' mitigation requirements.

### **Conservation Measures**

The Service has reviewed the conservation measures provided by your applicant, the City of San Mateo, including:

#### Spill prevention

Vehicle staging, cleaning, maintenance, refueling, and fuel storage will be located 150 feet or more from any water body or wetland. Machinery and implements that are used during the project will be in good repair, free of excessive leaks, and steam-cleaned off-site prior to entering the work area. Fluid leaks will either be repaired or contained within a suitable waste collection device (e.g., drip pads, drip pans). When changing hydraulic lines, care will be taken to keep hydraulic fluid from entering a water body or soils.

#### Invasive non-native plant prevention

All equipment (including personal gear) would be cleaned of soil, seeds, and plant material prior to arriving on-site and after working in areas with invasive non-native plants, such as perennial pepperweed (*Lepidium latifolium*), to prevent spread of weeds.

#### Waste management

Construction debris will be prevented from entering environmentally sensitive areas in and adjacent to the project site. The project site will be maintained trash-free and food

refuse will be contained in secure bins and removed once per week, minimum. If no garbage receptacles are available, all debris including food wrappers and drink containers will be collected and removed from the area on a daily basis for disposal at an appropriate facility.

### Off-road driving

Vehicles driving on dirt areas will travel at speeds no greater than 10 mph to minimize noise and dust disturbance.

### California clapper rail

#### *Surveillance and monitoring*

1. Because there is only minimal seasonal emergent wetland habitat present on the proposed project site, the closest suitable breeding habitat is nearly 500 feet away and the area between is largely developed and devoid of habitat, and there is equal or better foraging habitat closer to the suitable breeding habitat, it is highly unlikely that California clapper rails will be found on the project site. During the time prior to complete removal of existing vegetation on the project site, if work activities are conducted between February 1 and August 31, 14 days prior to activities beginning, pre-construction surveys shall be conducted by a holder of an appropriate section 10(a)1(A) permit. If a California clapper rail is detected, work will cease and consultation will be reinitiated.
2. For the duration of the project, all construction workers shall be required to participate in environmental awareness training prior to participating in work activities. The training will be led by a Service-approved biologist and will:
  - a. Provide information on the identification of California clapper rail, its habitat, and the species' behavior;
  - b. Review project-specific measures implemented to avoid and minimize effects on California clapper rail and its habitat;
  - c. Review procedures to follow in the event California clapper rail are observed in the project area, which include the following:
    - i. Work in the immediate vicinity will cease and consultation will be reinitiated.
    - ii. The Service must be notified within 24 hours of the observation of California clapper rail in the project area, including the date, time, and precise location of the individual(s) and description of what constitutes the observation (nest, individual(s) foraging, individual(s) calling, etc.) and fate of the individual(s) (left the area under own power, remains in place, etc.). A report should also be submitted to the California Natural Diversity Database (CNDDDB) within 30 days.
    - iii. Other environmental Best Management Practices and emergency spill prevention and response protocols articulated above.

*Vegetation removal and maintenance of no habitat cover for duration of project*

1. Vegetation will be removed by hand (chainsaws/handtools) and grubbed with larger machinery after required pre-construction nesting surveys for birds protected under the Migratory Bird Treaty Act, including the California clapper rail, have been performed.
2. The project schedule for site preparation to begin is approximately June 15, 2017. Clearing the site would take approximately 2 weeks and end approximately July 1, 2017. Clearing and grubbing of vegetation will happen in conjunction with site preparation activities including filling in the wetland area, so that the entire proposed project site will be cleared of habitat that might be attractive to nesting or foraging California clapper rails
3. The site will remain cleared of vegetation throughout construction. Exposed soils for pre-loading will be covered for erosion/ sediment control by the contractor. The contractor will ensure that no vegetation is allowed to re-start on the site during construction phases.

The Service concurs that the proposed project, as described including the conservation measures, may affect, but is not likely to adversely affect California clapper rail within the project area based on the following: (1) the work area is not likely to support breeding California clapper rails due to lack of necessary habitat features; (2) the closest suitable California clapper rail breeding habitat is nearly 500 feet away from the project area and will be avoided entirely; (3) the work area supports only a very small area (0.14 acre) of seasonal wetland that may provide marginal foraging habitat for California clapper rails, and (4) there is equal or better quality foraging habitat in closer proximity to area California clapper rail breeding habitat.

Unless new information reveals effects of the proposed action may affect listed species to an extent not considered or new species are listed or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary. Any actions or proposed actions that are modified in a manner that causes an effect to listed species or critical habitat that was not considered in this consultation will require reinitiation.

This concludes informal consultation for the San Mateo Wastewater Treatment Plant Upgrade Project, San Mateo, San Mateo County, California. Please address any question or concern regarding this response by contacting Anne Mankowski, Fish and Wildlife Biologist, at [Anne\\_Mankowski@fws.gov](mailto:Anne_Mankowski@fws.gov) or (916) 930-5673 or Kim Squires, Section 7 Coordinator, at [Kim\\_Squires@fws.gov](mailto:Kim_Squires@fws.gov). Please refer to Service file number 08FBBDT00-2016-I-0231 in any future correspondence regarding this project.

Sincerely,



Jana Affonso  
Assistant Field Supervisor





Attachment 3  
California State Historic Preservation  
Section 106 Consultation for the San  
Mateo Wastewater Treatment  
Plant Project



**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

1725 23<sup>rd</sup> Street, Suite 100  
SACRAMENTO, CA 95816-7100  
(916) 445-7000 Fax: (916) 445-7053  
calshpo@parks.ca.gov  
www.ohp.parks.ca.gov



November 02, 2016

In reply refer to: COE\_2016\_0811\_002

Holly Costa, Acting Chief Regulatory Division  
Attention: Naomi Schowalter  
U.S. Army Corps of Engineers  
San Francisco District  
1455 Market Street  
San Francisco, CA 94103-1398

RE: Sec 106 Consultation for the San Mateo Wastewater Treatment Plant Project, City of San Mateo, San Mateo County, California (2016-00141S)

Dear Ms. Costa:

The Office of Historic Preservation received on August 11, 2016 your letter initiating consultation on the above referenced project and additional information received on October 04, 2016 to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR Part 800. The Army Corps of Engineers (COE) is seeking my comments on their finding of effect for the San Mateo Wastewater Treatment Plant (WWTP) Project located within the City of San Mateo, San Mateo County, California. Along with your letter, you submitted the following documents to support the COE's finding of effect:

- *Cultural Resources Assessment for the City of San Mateo Clean Water Program – WWTP Upgrade Project* (CH2M, Inc. 2016)

The proposed undertaking would issue a Clean Water Act Section 404 permit to the City of San Mateo (Applicant) to upgrade and expand the San Mateo WWTP. The project would prepare the Detroit Drive land parcel for the expansion of the WWTP, which would include hauling discarded items offsite, testing the soil for contaminants, grading the site level, and permanently filling a wetland. The COE has defined the Area of Potential Effects (APE) as the permit area which is the approximately 0.14-acre wetland located on the Detroit Drive Parcel of the overall 6.3-acre project site.

Efforts to identify historic properties that may be affected by the undertaking included a records search, pedestrian survey, and Native American consultation. CH2M, Inc. (CH2M) conducted a records search of the WWTP site and the surrounding 1-mile at the Northwest Information Center in 2015, which revealed that no cultural resources have been previously recorded within the project area. CH2M conducted a pedestrian cultural resources survey on May 08, 2015 and March 15, 2016 of the entire project site with the exception of the mostly paved Bayfront Parcel. During the survey, the structures associated with the WWTP were recorded and evaluated as not eligible for listing on the National Register of Historic Places (NRHP) due to lack of integrity. No archaeological resources were recorded in the project area.

The COE contacted the Native American Heritage Commission (NAHC). Letters were sent to the Native American contacts provided by the NAHC on July 06, 2016 and a follow-up email was sent on July 21, 2016, to which no responses were received.

The COE has determined that there are no historic properties listed on or eligible for listing on the NRHP within their APE. Therefore, they are requesting my concurrence on the adequacy of their historic property identification efforts and their finding of “*no effect to historic properties*” for this undertaking. After reviewing the submitted materials, I have the following comments:

- Pursuant to 36 CFR 800.4(a)(1), the COE has not adequately defined the Area of Potential Effects for this undertaking. The APE as defined has been limited to the “Permit Area” to satisfy 33 CFR 325 and does not include the entire footprint of the proposed development. It is recommended that the COE define the APE for this undertaking according to the regulations at 36 CFR 800.16(d) and include the entire footprint of ground disturbance for the proposed project and any potential indirect effects that may extend beyond that footprint; including staging areas, access routes, and spoil deposition areas associated with the undertaking.
- Although the COE’s APE is not adequately defined, Pursuant to 36 CFR 800.4(b), despite the narrow scope of the COE’s APE, the historic property identification efforts carried out by the Applicant for this undertaking appear to have included the entire project area and appear to be adequate.
- Although the San Mateo WWTP is located outside of the APE as defined by the COE for this undertaking, it appears the Applicant’s consultant has adequately evaluated this resource as not eligible for listing on the NRHP. **I concur** with this evaluation, pursuant to 36 CFR 800.4(c)(2).
- Pursuant to 36 CFR 800.4(d)(1), it appears that there are no historic properties located within the project area for this undertaking and, therefore, I do not object to a finding of *no historic properties affected* for this undertaking.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. For more information or if you have any questions, please contact Koren Tippett at (916) 445-7017 or [koren.tippett@parks.ca.gov](mailto:koren.tippett@parks.ca.gov).

Sincerely,



Julianne Polanco  
State Historic Preservation Officer