



**GOLETA SANITARY**  
Water Resource Recovery District

**One William Moffett  
Place  
Goleta, CA 93117**

**September 2025**

**Prepared by:**

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# **Mitigated Negative Declaration for Solids Handling Improvement Project**

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Prepared for:  
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## List of Acronyms and Abbreviations

|                 |                                                           |
|-----------------|-----------------------------------------------------------|
| AB              | Assembly Bill                                             |
| A.D.            | Common Era (a.k.a., After Death)                          |
| AMSL            | Above Mean Sea Level                                      |
| ANSI            | American National Standards Institute                     |
| APN             | Assessor's Parcel Number                                  |
| AQIA            | Air Quality Impact Analysis                               |
| ATC             | Authority to Construct                                    |
| BACT            | Best Available Control Technology                         |
| BAU             | Business as Usual                                         |
| BBCI            | Barbareño Band of Chumash Indians                         |
| B.C.            | Before Common Era (a.k.a., Before Christ)                 |
| BESP            | Biosolids and Energy Strategic Plan                       |
| BMP             | Best Management Practice                                  |
| BVBMI           | Barbareño/Ventureño Band of Mission Indians               |
| CA              | California                                                |
| CA-217          | California State Route/Highway 217                        |
| CAA             | Clean Air Act                                             |
| CAAQS           | California Ambient Air Quality Standard                   |
| Cal/OSHA        | California Division of Occupational Safety and Health     |
| CalEEMod        | California Emissions Estimator Model <sup>®</sup>         |
| CalEPA          | California Environmental Protection Agency                |
| CALGreen        | California Green Building Standards Code                  |
| CalRecycle      | California Department of Resources Recycling and Recovery |
| CARB            | California Air Resources Board                            |
| CBC             | California Building Code                                  |
| CCAA            | California Clean Air Act                                  |
| CCC             | California Coastal Commission                             |
| CCIC            | Central Coast Information Center                          |
| CCR             | California Code of Regulations                            |
| CDFW            | California Department of Fish and Wildlife                |
| CDP             | Coastal Development Permit                                |
| CEC             | California Energy Commission                              |
| CEQA            | California Environmental Quality Act                      |
| CERS            | California Environmental Reporting System                 |
| CFR             | Code of Federal Regulations                               |
| CGS             | California Geological Survey                              |
| CH <sub>4</sub> | Methane                                                   |
| CHP             | Combined Heat and Power                                   |
| CHRIS           | California Historical Resources Information System        |

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|                   |                                                     |
|-------------------|-----------------------------------------------------|
| CNEL              | Community Noise Equivalent Level                    |
| CNPS              | California Native Plant Society                     |
| CO                | Carbon Monoxide                                     |
| CO <sub>2</sub>   | Carbon Dioxide                                      |
| CO <sub>2</sub> e | Carbon Dioxide Equivalent                           |
| CRHR              | California Register of Historical Resources         |
| CRPR              | California Rare Plant Ranking                       |
| CSNC              | California Sensitive Natural Communities            |
| CUP               | Conditional Use Permit                              |
| CUPA              | Certified Unified Program Agency                    |
| CWA               | Clean Water Act                                     |
| CWR               | Clean Water Rule                                    |
| CY                | Cubic Yard                                          |
| dB                | Decibel                                             |
| dBA               | “A-Weighted” Decibel                                |
| DTSC              | [California] Department of Toxic Substances Control |
| DVP               | Development Plan                                    |
| DWR               | [California] Department of Water Resources          |
| EIR               | Environmental Impact Report                         |
| EPA               | [United States] Environmental Protection Agency     |
| ESCP              | Erosion and Sediment Control Plan                   |
| ESH               | Environmentally Sensitive Habitat                   |
| ESRI              | Environmental Systems Research Institute            |
| FAA               | Federal Aviation Administration                     |
| FE                | Federally Endangered                                |
| FEMA              | Federal Emergency Management Agency                 |
| FHWA              | Federal Highway Administration                      |
| FIRM              | Flood Insurance Rate Maps                           |
| FP                | Fully Protected                                     |
| FT                | Federally Threatened                                |
| g                 | Gravity                                             |
| GHG               | Greenhouse Gas                                      |
| GSA               | Groundwater Sustainability Agency                   |
| GSD               | Goleta Sanitary District                            |
| GSP               | Groundwater Sustainability Plan                     |
| H <sub>2</sub> S  | Hydrogen Sulfide                                    |
| HFC               | Hydrofluorocarbon                                   |
| HMBP              | Hazardous Materials Business Plan                   |
| hp                | Horsepower                                          |
| HRA               | Health Risk Assessment                              |
| HS                | Harvested Sludge                                    |

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|            |                                                              |
|------------|--------------------------------------------------------------|
| HSW        | High Strength Waste                                          |
| HVAC       | Heating, Ventilation, and Air Conditioning                   |
| LACM       | Natural History Museum of Los Angeles County                 |
| lb/hr      | Pound(s) per hour                                            |
| LEA        | Local Enforcement Agency                                     |
| $L_{eq}$   | Equivalent Noise Level                                       |
| MAD        | Mesophilic Anaerobic Digester                                |
| MCC        | Motor control center                                         |
| MCV2       | Manual of California Vegetation, Second Edition              |
| $mg/m^3$   | Milligrams per Cubic Meter                                   |
| MGD        | Million Gallons per Day                                      |
| MLD        | Most Likely Descendent                                       |
| MM         | Mitigation Measure                                           |
| MMRP       | Mitigation Monitoring and Reporting Program                  |
| MMT        | Million Metric Tons                                          |
| MND        | Mitigated Negative Declaration                               |
| mph        | Miles per Hour                                               |
| MS4        | Municipal Separate Storm Sewer System                        |
| MT         | Metric Ton                                                   |
| $N_2O$     | Nitrous Oxide                                                |
| NAAQS      | National Ambient Air Quality Standard                        |
| NAHC       | Native American Heritage Commission                          |
| NIOSH      | National Institute for Occupational Safety and Health        |
| NFIP       | National Flood Insurance Program                             |
| NFPA       | National Fire Protection Association                         |
| $NO_2$     | Nitrogen Dioxide                                             |
| $NO_x$     | Nitrogen Oxides                                              |
| NPDES      | National Pollutant Discharge Elimination System              |
| NRCS       | Natural Resources Conservation Service                       |
| NRHP       | National Register of Historic Places                         |
| OHP        | [California] Office of Historic Preservation                 |
| OSHA       | Occupational Safety and Health Administration                |
| PDR        | Preliminary Design Report                                    |
| $PM_{10}$  | Respirable Particulate Matter (Less Than 10 Microns in Size) |
| $PM_{2.5}$ | Fine Particulate Matter (Less Than 2.5 Microns in Size)      |
| ppb        | Parts per Billion                                            |
| ppm        | Parts per Million                                            |
| PPV        | Peak Particle Velocity                                       |
| PRC        | Public Resources Code                                        |
| PRIMP      | Paleontological Resources Impact Mitigation Program          |
| PS         | Primary Sludge                                               |

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|                   |                                                     |
|-------------------|-----------------------------------------------------|
| PSD               | Prevention of Significant Deterioration             |
| PTO               | Permit to Operate                                   |
| PU                | Public Utility [Zoning Designation]                 |
| R                 | Refrigerant                                         |
| ROC               | Reactive Organic Compound                           |
| RWQCB             | Regional Water Quality Control Board                |
| SARWQCB           | Santa Ana Regional Water Quality Control Board      |
| SB                | Senate Bill                                         |
| SBA               | Santa Barbara Municipal Airport                     |
| SBCAG             | Santa Barbara County Association of Governments     |
| SBCAPCD           | Santa Barbara County Air Pollution Control District |
| SBCP&D            | Santa Barbara County Planning and Development       |
| SE                | State Endangered                                    |
| SEIR              | Supplemental Environmental Impact Report            |
| SGMA              | Sustainable Groundwater Management Act              |
| SMARA             | Surface Mining and Reclamation Act                  |
| SNR               | State Not Ranked                                    |
| SO <sub>2</sub>   | Sulfur Dioxide                                      |
| SO <sub>x</sub>   | Sulfur Oxides                                       |
| SRS               | Scientific Resource Surveys, Inc.                   |
| SSC               | Species of Special Concern                          |
| SVP               | Society of Vertebrate Paleontology                  |
| SWPPP             | Storm Water Pollution Prevention Plan               |
| SWRCB             | State Water Resources Control Board                 |
| SYBCI             | Santa Ynez Band of Chumash Indians                  |
| TAC               | Toxic Air Contaminant                               |
| TCR               | Tribal Cultural Resource                            |
| TMDL              | Total Maximum Daily Load                            |
| TWAS              | Thickened Waste Activated Sludge                    |
| UCSB              | University of California, Santa Barbara             |
| USACE             | U.S. Army Corps of Engineers                        |
| USDA              | U.S. Department of Agriculture                      |
| USDOT             | U.S. Department of Transportation                   |
| USFWS             | U.S. Fish and Wildlife Service                      |
| USGS              | U.S. Geological Survey                              |
| UT                | Public Utility [Land Use Designation]               |
| VMT               | Vehicle Miles Traveled                              |
| WAS               | Waste Activated Sludge                              |
| WEAP              | Worker Environmental Awareness Program              |
| WRRF              | Water Resource Recovery Facility                    |
| µg/m <sup>3</sup> | Microgram per Cubic Meter                           |

# Mitigated Negative Declaration for Solids Handling Improvement Project

## 1.0 INTRODUCTION

### 1.1 Project Overview

Goleta Sanitary District (GSD) owns and operates the Goleta Water Resource Recovery Facility (WRRF) located at One William Moffett Place, near the Santa Barbara Municipal Airport (SBA), in an unincorporated coastal area of Santa Barbara County, California. GSD is a special services district that provides wastewater collection, treatment, and disposal services to residents and businesses within the Goleta Valley.

The GSD WRRF has an annual average design flow capacity to treat 7.64 million gallons per day (MGD) of wastewater, but it is currently treating an annual average flow of approximately 4.9 MGD. The treatment process at WRRF begins with bar screens to remove large debris, as well as aerated grit tanks and two cyclone separators to remove grit and sand. The wastewater then flows into three primary clarifiers for solids removal prior to secondary treatment. The secondary treatment at WRRF includes biofilters, three aeration basins, and four secondary clarifiers.

Currently, GSD's WRRF has the following solids and gas handling process for treatment of solids recovered from wastewater. Primary Sludge (PS) coming from primary clarifiers is pumped to the digestion process. Waste activated sludge (WAS) generated from secondary treatment is thickened to 6% solids using two screw thickeners; the resulting thickened WAS (TWAS) is pumped to the digestion process. Combined PS and TWAS solids are stabilized in three mesophilic anaerobic digesters (MADs), operated in parallel. Digested biosolids are dewatered by two screw presses and then loaded onto trucks for transport off-site. A small portion of the dewatered biosolids is diverted into sludge drying beds for further stabilization to become a Class A product. Biogas produced in the digesters is burned in boilers to provide hot water for heating the digesters and to supply other heating needs at the WRRF. Biogas that is not required for heating is flared through the waste gas burner.

A condition assessment conducted in 2016 indicated that some of the unit processes at WRRF are nearing the end of their service life and would need rehabilitation and replacement soon. A Biosolids and Energy Strategic Plan (BESP) was developed in August 2019 by Hazen and Sawyer (Hazen), which evaluated biosolids unit processes in detail and recommended upgrading existing facilities to mitigate regulatory uncertainties affecting biosolids disposition, to diversify beneficial use outlets, and to approach energy neutrality for the facility. The BESP summarized the capacity evaluation for the existing solids processes, including digesters considering the current and anticipated future flows and loads, and identified the need to build a new digester to maintain firm capacity. Firm capacity was defined as the ability to maintain full treatment capacity with the largest single process unit out of service. The BESP also included assessment of the High Strength Waste (HSW) co-digestion and the feasibility and benefits of reaching energy neutrality. BESP provided GSD with a suite of improvement options for the WRRF, each with its own independent utility and purpose.

GSD is proposing to implement a Solids Handling Improvement Project (SHIP) at its WRRF (Project), which includes the construction of a thermal dryer facility. The addition of the thermal

dryer facility will decrease the amount of hauled sludge, as well as increase the quality of biosolids produced, thus increasing the potential for beneficial reuse of the product. The proposed Project includes the following components:

- A thermal dryer, which will heat dewatered sludge to transform it into Class A biosolids;
- A thermal heater system, which will use natural gas to provide heat to operate the thermal dryer, with the option to convert to using biogas produced by the digesters in the future, when gas production increases;
- Loadout facilities, intended to load Class A biosolids into trucks for removal from the site;
- Associated civil, structural, electrical and instrumentation work; and
- A fire pump for a fire suppression system at the new buildings.

## **1.2 Purpose of the Mitigated Negative Declaration**

This Mitigated Negative Declaration (MND) has been prepared in accordance with the provisions of the California Environmental Quality Act (CEQA), as set forth in the California Public Resources Code (PRC) Sections 21000 to 21174. In accordance with the California Code of Regulations (CCR) Title 14 Section 15002(a) CEQA Guidelines, the basic purposes of CEQA are to inform public agency decisionmakers and the general public of the significant environmental effects of a project, identify possible ways to minimize the significant effects through the use of mitigation measures or alternatives to the Project, and disclose to the public the reasons why a government agency approved the project, if significant environmental effects are involved.

An MND for a project subject to CEQA is prepared when an environmental analysis of the project shows that there is no substantial evidence that the project may have a significant effect on the environment after mitigation [CEQA Guidelines Section 15070(b)]. As discussed in Chapter 3 – Environmental Checklist, the proposed Project is not expected to result in any significant adverse environmental impacts after mitigation; therefore, an MND is the appropriate CEQA document.

## **1.3 Public Review Process**

Publication of this MND marks the beginning of a 30-day public review and comment period. During this period, the MND will be available to local, State, and federal agencies and to interested organizations and individuals for review. Written comments concerning the environmental review contained in this MND during the 30-day public review period should be sent to:

Steve D. Wagner, PE  
General Manager  
Goleta Sanitary District  
One William Moffett Place, Goleta, CA 93117  
Phone: (805) 967-4519; Fax: (805) 964-3583  
[SWagner@GoletaSanitary.org](mailto:SWagner@GoletaSanitary.org)

Comments are requested to be provided no later than November 10, 2025.

Following the conclusion of the public review period, GSD will consider the adoption of the MND for the Project at a regularly scheduled GSD board meeting. GSD shall consider the MND together with any comments received during the public review process. Upon adoption of the MND, GSD may proceed with Project approval actions.



## 2.0 PROJECT DESCRIPTION

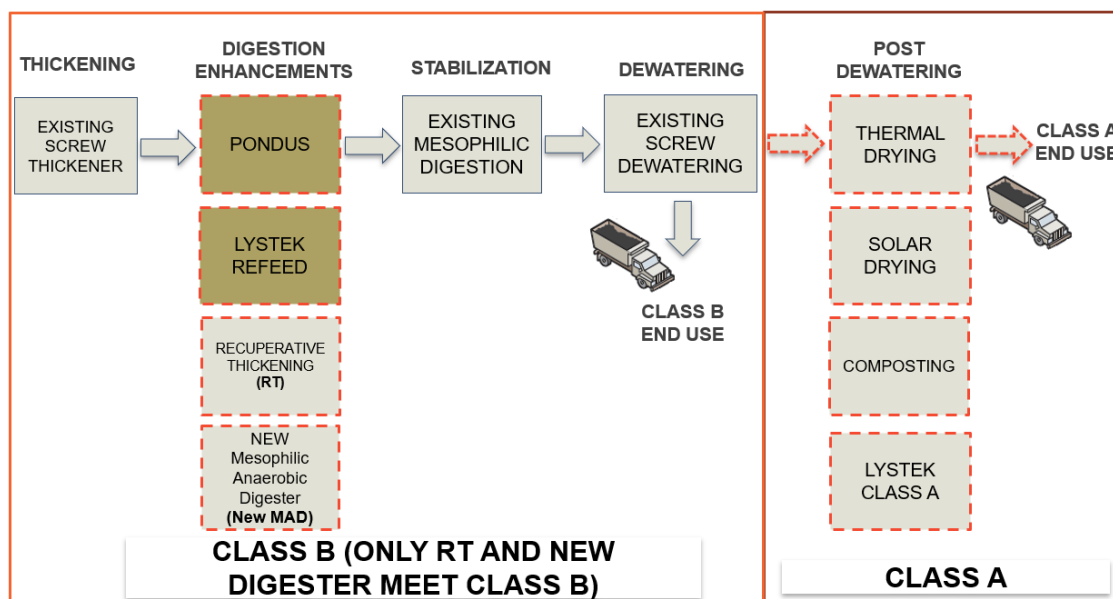
### 2.1 BESP Background

Development of the BESP included the evaluation of a wide variety of technologies to increase digestion capacity and biogas production while leveraging existing assets. Technology alternatives were evaluated based on economic and non-economic factors to address the distinct goals and strategies identified within BESP. Proposed alternatives were evaluated for effectiveness in achieving the overall strategic objectives of increasing digester capacity and biogas production and producing Class A biosolids material. Class A biosolids are defined as dewatered and heated material that meets the United States Environmental Protection Agency (EPA) guidelines contained in Code of Federal Register (CFR) Part 503 for land application with no restrictions, thus reducing disposal costs. Figure 2-1 presents the alternatives that were evaluated in the BESP.

The BESP alternatives evaluation results identified the following projects:

- 1) The addition of a new anaerobic digester is the most feasible option to increase digestion capacity and biogas production.
- 2) Thermal drying is the preferred approach to achieve Class A material when compared to other post dewatering options.

**Figure 2-1: Biosolids Alternatives Evaluated**

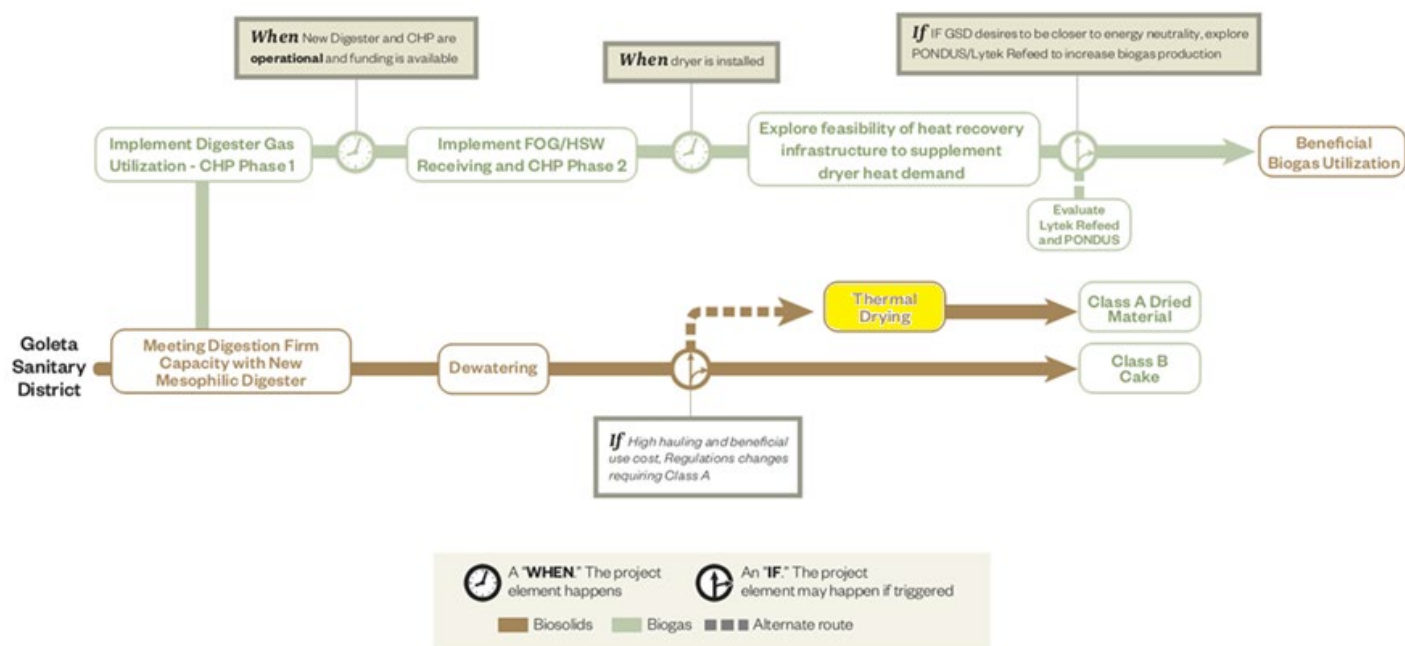


Approaches for achieving energy neutrality by implementing technologies and strategies to maximize biogas production and energy recovery, including on-site renewable energy (solar) and energy storage, were evaluated as part of the BESP. The results of this evaluation identified combined heat and power (a combustion engine) as the most desirable biogas utilization technology. As a result of the BESP, a roadmap was developed, as shown in Figure 2-2.

A MND (State Clearinghouse No. 20220402420) was completed and approved in 2022 for a prior project consisting of a new 550,000-gallon digester, a 160-kilowatt CHP engine, and a biogas pretreatment system. That initial project under the BESP, referred to as the 2022 Biogas Project, was oriented toward the goal of increasing digester capacity.



Figure 2-2: Biosolids and Energy Roadmap



Due to increasing biosolids hauling and disposal costs, GSD is moving forward with the Solids Handling Improvement Project (SHIP) (highlighted in Figure 2-2) which is focused on the addition of a thermal dryer facility to produce Class A Biosolids. The addition of the thermal dryer facility will decrease the amount of hauled sludge and increase the quality of biosolids produced, therefore increasing the potential for beneficial reuse of the product.

## 2.2 Project Objectives

The objective of the Project is to design and construct the proposed new thermal dryer facility. The Preliminary Design Conditions for this Project were identified and reported in GSD's Biosolids & Energy – Solids Handling Improvement Project Preliminary Design report (PDR), which was prepared and submitted to GSD by Hazen in October 2022.

This MND has been prepared based on the PDR (Hazen 2022), the 60% design (Hazen 2024), and the BESF (Hazen 2019). While the previously approved project—which includes a new anaerobic digester and CHP engine—focuses on enhancing digestion capacity and biogas utilization, the SHIP independently adds thermal drying to produce Class A biosolids. Each project has stand-alone utility and fulfills separate objectives, though both contribute to the broader goals of the BESF.

## 2.3 Project Location

The Goleta WRRF is located at One William Moffett Place, in an unincorporated coastal area of Santa Barbara County, California. The plant is located approximately 10 miles west of the City of Santa Barbara, near the Pacific Coast, as shown in Figure 2-3. Treated wastewater is discharged through an ocean outfall, located south of WRRF, into the Pacific Ocean at a location more than one mile offshore of Goleta Beach Park. The thermal dryer facility will be housed in a new building in the existing Biosolids Handling Area. Two of the existing sludge drying beds will be utilized

for the site of the new Thermal Dryer Building. The boundary of the proposed Project is provided in Figure 2-4.

## **2.4 Existing Facility Components**

The existing solids processing flow diagram is shown in Figure 2-5. Currently, GSD's WRRF has the following solids and gas handling processes for treatment of solids to achieve Class B biosolids:

- WAS generated from secondary treatment flows through two screw thickeners and is thickened up to 6% solids;
- TWAS is combined with PS coming from primary clarifiers prior to the digestion process;
- Combined PS and TWAS solids are stabilized in three MADs, operated in parallel;
- Digested biosolids are dewatered by two screw presses prior to beneficial use as a Class B product;
- A small portion of the dewatered biosolids goes into sludge drying beds for further stabilization to become a Class A product; and
- Biogas produced in the digesters is burned in boilers to provide hot water for heating the digesters and to supply other heating needs at the WRRF. Biogas that is not required for heating is flared through the waste gas flare. Currently, the new CHP engine and biogas pretreatment systems are being built to generate a combination of electric and thermal energy to offset purchased power and heat the digesters and buildings.

## **2.5 Project Components**

General areas where Project components are proposed to be located are identified in the PDR and shown in Figure 2-6. The Project components will be located entirely within the existing facility footprint, and no additional land will be needed to accommodate the new thermal dryer facility. Figure 2-7 is a civil site plan showing the preliminary drawing of the proposed Project components.

A description of each of the Project components is provided below.

### ***2.5.1 Dewatered Cake Bin***

A dewatered cake bin will be provided to store dewatered cake prior to drying. The cake bin will be located on the site of an existing sludge holding bin and will utilize the existing system of screw conveyors to transport the cake from the dewatering screw presses to the cake storage bin. The pumps feeding cake to the dryer will be located alongside the cake bin.

### ***2.5.2 Thermal Dryer System***

The indirect thermal dryer system will reduce GSD's sludge hauling by drying the dewatered sludge cake from 14% to 90% dry solids or greater. The dried sludge cake will be pelletized to reduce dust emissions. The Thermal Dryer, cake bin, cake feed pumps, cooling conveyor, pelletizer, pellet conveyor, thermal fluid heater, condenser, odor control system, and controls will be provided as a package system.

Figure 2-3: GSD Project Vicinity

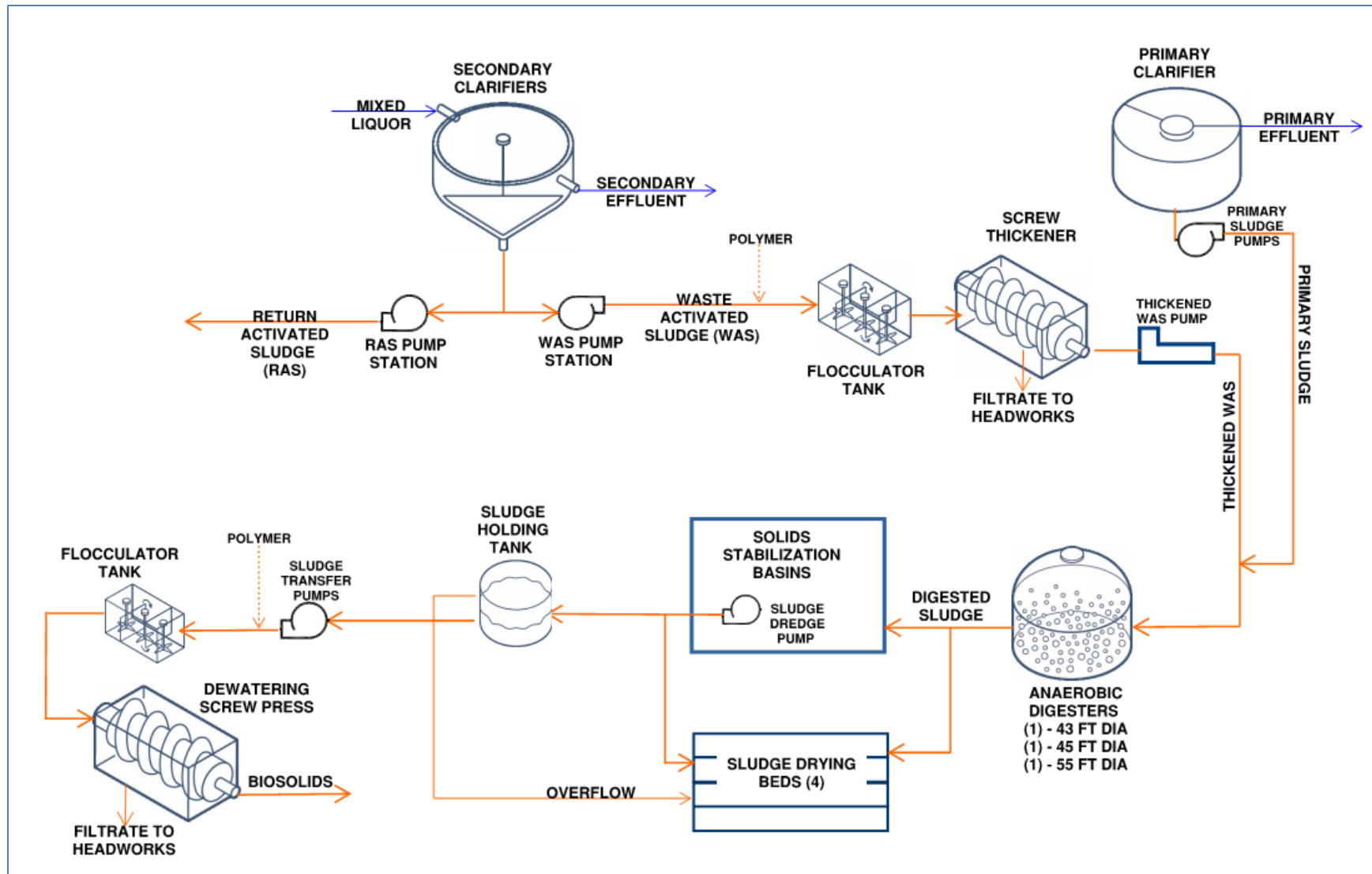




**Figure 2-4: Boundary of the Proposed Project**

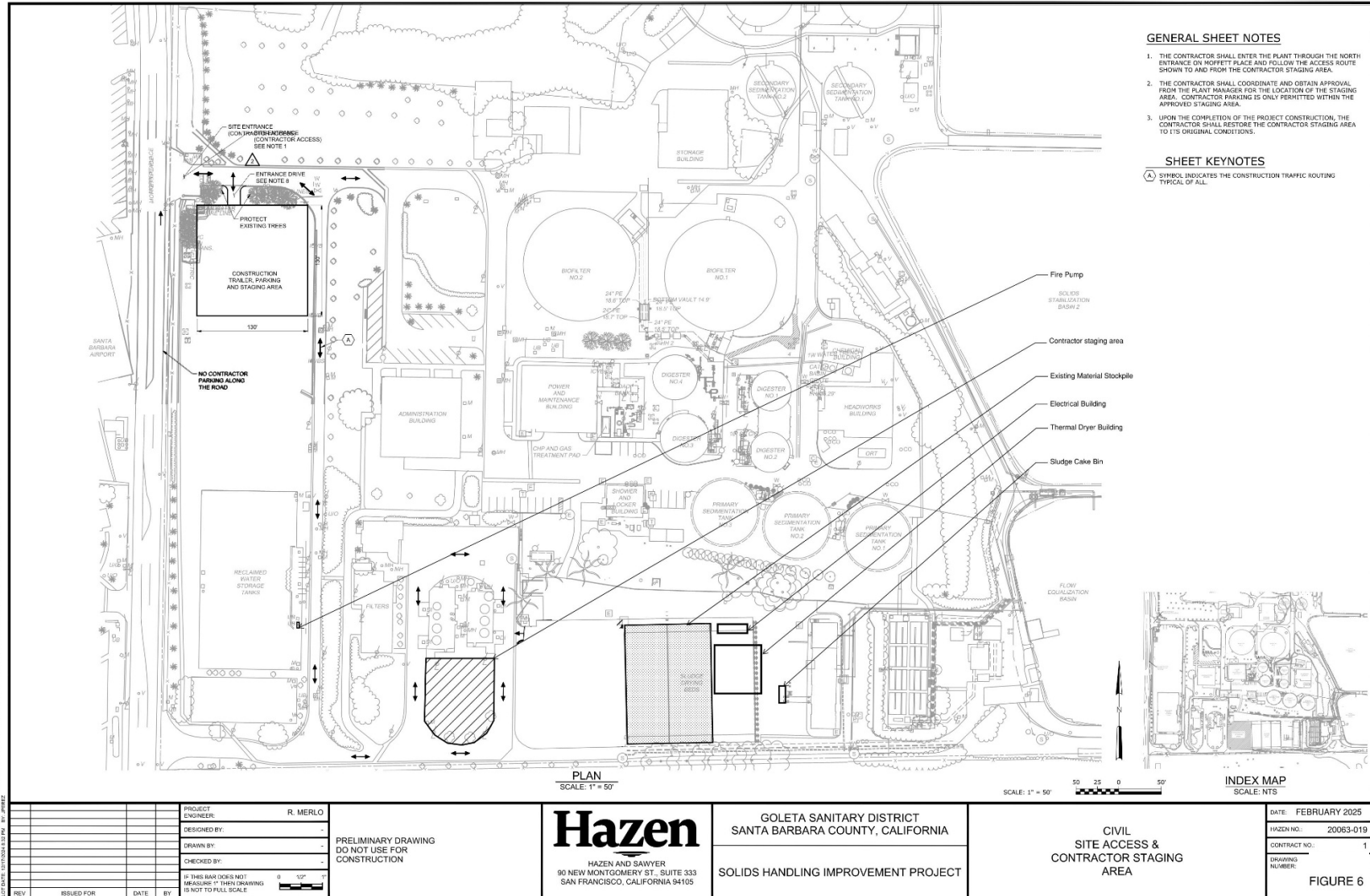


Figure 2-5: Existing WRRF Processing Flow Diagram



# Mitigated Negative Declaration for Solids Handling Improvement Project Goleta Sanitary District

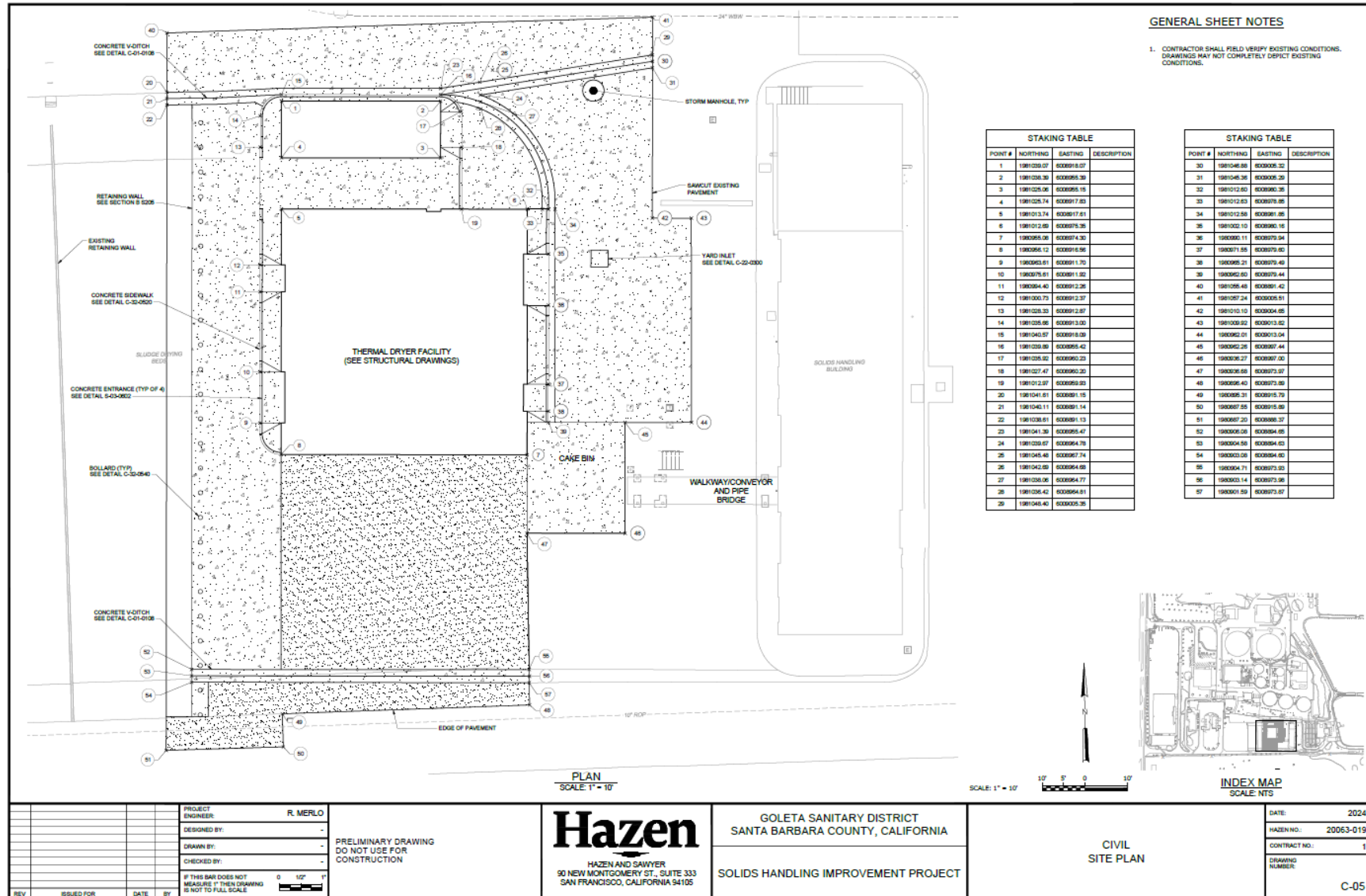
**Figure 2-6: Overview of Project Site**





# Mitigated Negative Declaration for Solids Handling Improvement Project Goleta Sanitary District

**Figure 2-7: Civil Site Plan**



#### *2.5.2.1 Thermal Fluid Heaters*

The Thermal Dryer receives the heat needed to evaporate the water content of the cake by a recirculating loop of heated thermal fluid. This fluid is pumped through a thermal fluid heater, which is very similar to a hot water boiler in design and purpose. The thermal fluid is exposed to a high heat, without direct contact to the burner exhaust. This now-heated fluid is then piped to the dryer equipment, where it heats the cake and encourages evaporation. The Thermal Fluid Heater will utilize natural gas for heating. Provision will be made to allow the system to operate on biogas in the future, if gas production increases.

#### *2.5.2.2 Thermal Dryer*

The sludge cake is pumped from the cake bin and into the dryer, where it is indirectly heated and slowly agitated by a pair of counter-rotating screws, which may also be referred to as paddles by different manufacturers. The screws also serve as the source of indirect heating for the sludge cake. A heated thermal fluid oil is continually pumped through the screws. The heat results in the evaporation of the water entrained in the sludge, while the screws slowly turn the cake over and carry it to the discharge of the equipment. The dewatered product is then conveyed through a cooling conveyor to a pelletizer, which will compress it into pellets to improve handling characteristics and reduce dust production. After pelletizing, the product will enter a pneumatic conveyor, which will transport it outside the building and deposit it into a truck.

There are a number of manufacturers of indirect screw-type thermal dryers; each has unique requirements in terms of ancillary equipment and equipment configuration. The manufacturer of the dryer was selected through a competitive preselection process to allow the features of the facility to be tailored to the configuration of the selected dryer. The dryer performance parameters are presented in the PDR.

### **2.5.3 Product Conveyance and Handling**

A series of pumps and conveyors will be used to transfer the biosolids through the different components of the process that transforms it from blended biosolids into the dried and pelletized end product. Biosolids will be pumped from the holding tank in the Dewatering Building to the dewatering screw presses. Two existing conveyors will be used to transfer dewatered cake from the screw presses to the cake bin. A horizontal screw conveyor will transfer cake from the cake bin to the dryer feed pumps, which will pump the cake to the thermal dryer.

An inclined cooling conveyor will transfer the dried product from the dryer to the pelletizer. The pelletizer will discharge it into a bucket elevator, which will transfer the pelletized product into the pellet cooler. The pellet cooler will discharge the cooled pellets into a dense phase pneumatic conveyor, which will transfer them to the truck loading point and discharge them into the truck.

If the dryer is offline and the plant desires to empty the cake bin, the dryer feed pumps will have a bypass branch that will discharge to the truck bay outside.

### **2.5.4 HVAC**

Ventilation will be provided for the Thermal Dryer Room, the Thermal Fluid Heater Room, and the Pelletizer Room. Air conditioning will be provided for the Electrical Building. The



heating, ventilation, and air conditioning (HVAC) systems shall be designed in accordance with the following codes and standards:

- 2022 California Mechanical Code (effective January 1, 2023);
- 2022 California Energy Code (effective January 1, 2023);
- 2022 California Plumbing Code (effective January 1, 2023); and
- 2020 National Fire Protection Association (NFPA) 820 – Standard for Fire Protection in Wastewater Treatment and Collection Facilities;
- 2025 NFPA 660 – Standard for Combustible Dusts and Particulate Solids
- 2024 NFPA 87 – Standard for Fluid Heaters

The HVAC system shall be designed to operate in outdoor design temperatures from the 2021 ASHRAE Handbook for the SBA (WMO: 723925). Outdoor design temperatures are as follows: Winter: 35.4°F Dry Bulb (99.6% design criteria) and Summer: 80.1°F Dry Bulb/63.4°F Wet Bulb (0.4% design criteria).

The requirements for the design of ventilation systems serving process areas, such as the Dryer Room and the Thermal Fluid Room, are in NFPA-820. Per Table 6.2.2(a), Row 12, Line a, in order to have the Dryer Room be unclassified, the HVAC system is required to provide a minimum continuous flow of outside air at a rate of 6 Air Changes Per Hour (ACH). The Thermal Fluid Heater Room would fall under Table 6.2.2(a), Row 18, Line a.

NFPA-820 does not contain any ventilation requirements for spaces such as the Electrical Room. The HVAC systems for the building would meet the requirements of the Mechanical and local codes.

The air discharged by the Thermal Dryer will pass through a condenser to remove moisture, and then through an odor control unit, before discharge to the atmosphere.

Air discharged by the pelletizer and the pneumatic conveyor will be ducted to a rotary cyclone for dust removal before discharge to atmosphere.

### **2.5.5 Plumbing**

The plumbing systems shall be designed in accordance with the following codes and standards:

- 2022 California Plumbing Code (effective January 1, 2023)
- American National Standards Institute (ANSI) standards, including ANSI Z358.1 – Emergency Eyewash and Shower Equipment

The plumbing system will serve the domestic and emergency fixture water needs, washdown water needs, and waste drainage and venting of the thermal dryer facility.

### **2.5.6 Fire Protection**

Fire Protection will be provided for the Thermal Dryer Room, the Thermal Fluid Heater Room and the Pelletizer Room. The Fire Protection systems shall be designed in accordance with the following codes and standards:

- 2022 California Fire Code (effective January 1, 2023)

- 2025 NFPA 660 – Standard for Combustible Dusts and Particulate Solids
- 2024 NFPA 87 – Standard for Fluid Heaters

The thermal dryer facility will be provided with a wet sprinkler system to comply with the NFPA 820 requirements for fire suppression in the building. The wet sprinkler system will be provided with a double check valve-type backflow preventer to protect the upstream water supply from cross-contamination. All belowground piping will be ductile iron pipe, and all interior exposed piping will be Schedule 40 steel. The sprinkler system design will account for the building height and movement.

The Thermal Fluid Heater Room will be provided with an oil-resistant water based expanding foam fire suppression system to minimize the impact of water on a thermal fluid fire event.

A fire pump engine will be installed to ensure availability of water in event of a fire.

Combustible gas detectors will be provided in various areas as needed to comply with NFPA 820 requirements.

#### ***2.5.7 Electrical***

The thermal dryer facility will be powered by a new motor control center (MCC) located inside the new Electrical Building adjacent to the new Thermal Dryer Building. A new duct bank will be needed between the existing Sludge Dewatering Building and the new Electrical Building. New facilities located outside the Thermal Dryer Building will be powered by existing MCCs.

#### ***2.5.8 Civil Works***

Construction will be occurring on the existing treatment plant site. There will be new pavement in the location of drying beds 2 and 3, but in general, the existing pavement will either be maintained in place or removed as required for construction. Grading will be limited to what is required around new facilities and will be graded to match existing drainage patterns.

New site utilities will be provided to the thermal dryer facility, and existing utilities will be removed and replaced or relocated. A new 1.5-inch service air line and 6-inch medium pressure sludge gas pipeline, both approximately 475 feet in length, will connect the existing systems to the Thermal Drying Facility. A new 3-inch natural gas pipeline approximately 800 feet in length, will run between the existing gas meter and the Thermal Dryer Building.

### **2.6 Project Construction**

Construction and laydown areas are shown in Figure 2-4 above.

#### ***2.6.1 Project Construction Components***

The majority of construction of the thermal dryer facility can be completed with limited impact to the WRRF operation since this will be a new facility. The Project construction components are listed below:

- Fill and grade sludge drying beds;

- Construct utility pipelines, including new service air, natural gas, and water supply lines;
- Construct Thermal Dryer Building and Electrical Building;
- Construct and install piping, pumps, and fire pump engine;
- Install cake bin, thermal dryer, conveyors, and thermal fluid heater; and
- Thermal Dryer start-up and steady state operations.

### 2.6.2 Construction Equipment

The specific type of equipment used during construction would be determined by the selected General Contractor. Table 2-4 lists the offroad equipment that may be used during construction.

**Table 2-1: Construction Offroad Equipment by Phase for the Proposed Project**

| Phase No. / Name |                                          | Equipment Type                     | Fuel Type | Engine Tier | Number per Day | Hours Per Day | HP  | Load Factor |
|------------------|------------------------------------------|------------------------------------|-----------|-------------|----------------|---------------|-----|-------------|
| 1                | Demolition                               | Tractors/Loaders/Backhoes          | Diesel    | Average     | 3              | 9             | 84  | 0.37        |
|                  |                                          | Rubber Tired Dozers                | Diesel    | Average     | 1              | 9             | 367 | 0.4         |
|                  |                                          | Concrete/Industrial Saws           | Diesel    | Average     | 1              | 9             | 33  | 0.73        |
| 2                | Site Preparation                         | Tractors/Loaders/Backhoes          | Diesel    | Average     | 1              | 9             | 84  | 0.37        |
|                  |                                          | Excavators                         | Diesel    | Average     | 1              | 9             | 136 | 0.38        |
|                  |                                          | Dumpers/Tenders                    | Diesel    | Average     | 2              | 9             | 16  | 0.38        |
|                  |                                          | Skid Steer Loaders                 | Diesel    | Average     | 1              | 9             | 71  | 0.37        |
|                  |                                          | Rubber Tired Dozers                | Diesel    | Average     | 1              | 9             | 367 | 0.4         |
| 3                | Linear, Drainage, Utilities, & Sub-Grade | Bore/Drill Rigs                    | Diesel    | Average     | 1              | 9             | 83  | 0.5         |
|                  |                                          | Excavators                         | Diesel    | Average     | 1              | 9             | 136 | 0.38        |
|                  |                                          | Rubber Tired Dozers                | Diesel    | Average     | 1              | 9             | 367 | 0.4         |
|                  |                                          | Tractors/Loaders/Backhoes          | Diesel    | Average     | 1              | 9             | 84  | 0.37        |
|                  |                                          | Cranes                             | Diesel    | Average     | 1              | 9             | 367 | 0.29        |
|                  |                                          | Other General Industrial Equipment | Diesel    | Average     | 1              | 9             | 35  | 0.34        |
|                  |                                          | Air Compressors                    | Diesel    | Average     | 1              | 9             | 37  | 0.48        |
|                  |                                          | Other Construction Equipment       | Diesel    | Average     | 1              | 9             | 82  | 0.42        |
| 4                | Building Construction A                  | Cranes                             | Diesel    | Average     | 1              | 9             | 367 | 0.29        |
|                  |                                          | Forklifts                          | Diesel    | Average     | 1              | 9             | 82  | 0.2         |
|                  |                                          | Tractors/Loaders/Backhoes          | Diesel    | Average     | 1              | 9             | 84  | 0.37        |
|                  |                                          | Dumpers/Tenders                    | Diesel    | Average     | 2              | 9             | 16  | 0.38        |
| 5                | Building Construction B                  | Cranes                             | Diesel    | Average     | 1              | 9             | 367 | 0.29        |
|                  |                                          | Forklifts                          | Diesel    | Average     | 1              | 9             | 82  | 0.2         |
|                  |                                          | Skid Steer Loaders                 | Diesel    | Average     | 1              | 9             | 71  | 0.37        |
| 7                | Architectural Coating                    | Air Compressors                    | Diesel    | Average     | 1              | 9             | 37  | 0.48        |

Notes:

Engine load factors and hp ratings are CalEEMod default values (version 2022.1.1.29).

No offroad equipment is expected to be used for the Commissioning (i.e., CalEEMod Phase: Building Construction C) and Startup and preliminary operations (i.e., CalEEMod Phase: Building Construction D) phases; therefore, these phases are not included.

### 2.6.3 Project Phases and Construction Schedule

Demolition, construction, commissioning, and startup are anticipated to occur over an 18-month period in the following eight phases:

- Construction Phase 1: Demolition of existing asphalt surfaces;
- Construction Phase 2: Site preparation for thermal dryer facility;
- Construction Phase 3: Trenching and installation of utility pipeline;
- Construction Phase 4: Construction of the Thermal Drying Facility;
- Construction Phase 5: Mechanical and electrical work;
- Construction Phase 6: Commissioning;
- Construction Phase 7: Architectural coating; and
- Construction Phase 8: Startup and preliminary operations.

A preliminary construction schedule is shown in Table 2-1.

**Table 2-2: Proposed Project Preliminary Construction Schedule by Phase**

| Phase No. / Name |                                          | Phase Type                               | Start Date | End Date  | Days per Week | Work Days per Phase | Phase Description                                     |
|------------------|------------------------------------------|------------------------------------------|------------|-----------|---------------|---------------------|-------------------------------------------------------|
| 1                | Demolition                               | Demolition                               | 3/2/2026   | 4/5/2026  | 4             | 20                  | Demolition of asphalt surfaces                        |
| 2                | Site Preparation                         | Site Preparation                         | 4/6/2026   | 6/7/2026  | 4             | 36                  | Site preparation and grading for Thermal Dryer System |
| 3                | Linear, Drainage, Utilities, & Sub-Grade | Linear, Drainage, Utilities, & Sub-Grade | 6/8/2026   | 6/28/2026 | 4             | 12                  | Trenching and installation of utility pipelines       |
| 4                | Building Construction A                  | Building Construction                    | 6/29/2026  | 5/12/2027 | 4             | 183                 | Construction of the Thermal Dryer System              |
| 5                | Building Construction B                  | Building Construction                    | 6/1/2027   | 6/16/2027 | 4             | 10                  | Paving and Mechanical and electrical work             |
| 6                | Building Construction C                  | Building Construction                    | 6/16/2027  | 7/4/2027  | 4             | 10                  | Commissioning                                         |
| 7                | Architectural Coating                    | Architectural Coating                    | 7/5/2027   | 8/8/2027  | 4             | 20                  | Painting                                              |
| 8                | Building Construction D                  | Building Construction                    | 8/9/2027   | 8/16/2027 | 4             | 5                   | Startup and preliminary operations                    |

#### **2.6.4 Structural and Geotechnical Design**

The proposed Project includes construction of new structures. The new Thermal Dryer Building will consist of a pre-engineered metal building on concrete mat slab foundation. The electrical building will be a reinforced masonry building on mat slab foundation. Concrete structures shall be designed in accordance with the requirements of American Concrete Institute (ACI) 350 – Code Requirements for Environmental Engineering Concrete Structures and American Society of Civil Engineers (ASCE) 7 – Minimum Design Loads for Buildings and Other Structures. Steel structures shall be designed in accordance with American Institute of Steel Construction (AISC) – Manual of Steel Design. Masonry structures shall be designed in accordance with The Masonry Society (TMS) 402/602 Building Code Requirements and Specification for Masonry Structures.

The strength, serviceability, and quality standards shall not be less than stipulations required by the governing code. The governing code used for the proposed design is the 2022 California Building Code. Materials and construction shall be designed in accordance with the California Building Code, and other codes as presented within this report. The California Building Code consists of the 2021 International Building Code as adopted and amended by the State of California.

Ninyo and Moore performed a geotechnical evaluation for the 2022 Biogas Project. Since the proposed SHIP site is close to the 2022 Biogas Project site, the Project site has similar geologic conditions to the 2022 Biogas Project site. Therefore, designs will be in accordance with specific recommendations that are contained in Appendix D of the Soil Engineering Report, prepared by Ninyo & Moore for the proposed Project (Ninyo & Moore 2021).

#### **2.6.5 Site Work and Truck Load Estimates**

The proposed Project includes the addition of new facilities in areas that are either paved or on land that has been previously disturbed. The estimated volume of excavated soil, soil reused for backfill, and soil imported for the proposed Project is shown in Table 2-2, and a summary of the number of trucks needed for transport of the soils is shown in Table 2-3. Approximately 2,160 cubic yards (CY) of soil will be excavated, 1,760 CY of which will be reused onsite for backfill. The estimated volume of excavated soil to be disposed of off-site is 400 CY. Total material hauling trips are estimated to be 172, including soil disposal and hauling of waste, with a maximum of 30 trips per day.

**Table 2-3: Excavation, Backfill (Reuse), and Import Amounts**

| <b>Area of Improvement</b> | <b>Excavation Amount (CY)</b> | <b>Backfill (Reuse) Amount (CY)</b> | <b>Import Amount (CY)</b> |
|----------------------------|-------------------------------|-------------------------------------|---------------------------|
| Drying Beds 2 & 3          | 1,700                         | 1,300                               | 400                       |
| Piping, Misc.              | 460                           | 460                                 | –                         |
| <b>TOTAL</b>               | <b>2,160</b>                  | <b>1,760</b>                        | <b>400</b>                |



**Table 2-4: Summary of Truck Generation**

| Parameter                                                             | Number of Haul/ Delivery Trucks | Volume per Truck |
|-----------------------------------------------------------------------|---------------------------------|------------------|
| Concrete Trucks                                                       | 75                              | 10 CY            |
| Trailer/Tractors delivering rebar                                     | 2                               | 20,000 lbs       |
| Trailer/Tractors delivering masonry                                   | 5                               | 30,000 lbs       |
| Trailer/Tractors delivering other building materials                  | 11                              | 20,000 lbs       |
| Trucks delivering soil                                                | 31                              | 12 CY            |
| Trucks transporting soil off-site                                     | 34                              | 12 CY            |
| Trucks/Trailers delivering miscellaneous equipment from pipe to pumps | 14                              | 20,000 lbs       |

The truck route during construction from U.S. Highway 101 to the WRRF will be:

- Exit California State Route 217 (CA-217) towards Airport/University of California, Santa Barbara (UCSB) from U.S. Highway 101;
- Continue west on CA-217 to Exit 1 Sandspit Road;
- Turn right onto Moffett Place; and
- Turn right into the GSD WRRF.

#### **2.6.6 Staging Areas, Parking, and Storage**

An on-site construction trailer will be needed for the duration of the Project. This trailer will provide office space for the contractor's management personnel. Parking will be provided at the contractor trailer for management staff. Materials will also be stored off site in a separate laydown area. This laydown area may include yard space and rented warehouse space for tools, materials, and equipment. It is also expected that excavated materials will be transported off-site.

Peak construction workers would be 30 on-site, with an average of 18 workers on any given day. They would come primarily from the Santa Barbara/Ventura area.

#### **2.6.7 Construction Best Management Practices (BMPs)**

GSD will incorporate the specific design recommendations that are contained in the Geotechnical Evaluation prepared by Ninyo & Moore (Ninyo & Moore 2022) (see Appendix D). GSD's existing Storm Water Pollution Prevention Plan (SWPPP) will be updated to include an erosion and sediment control plan (ESCP) for construction of the proposed Project, which will include implementation of the following BMPs designed to minimize erosion:

- Methods such as geotextile fabrics, erosion control blankets, retention basins, drainage diversion structures, siltation basins, and/or spot grading will be used to reduce erosion and siltation into adjacent water bodies or storm drains during grading and construction activities.
- Entrances/exits to the construction site will be stabilized (e.g., using rumble plates, gravel beds, or other best available technology) to reduce transport of sediment off

site. Any sediment or other materials tracked off site will be removed the same day as they are deposited using dry cleaning methods.

- Storm drain inlets will be protected from sediment-laden waters by the use of inlet protection devices, such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps.
- Construction staging and storage areas will be shown on the grading plans. These areas will be fenced, BMPs such as hay bales will be installed around the perimeter to prevent runoff from leaving the staging area, and entrances/exits will be stabilized.
- Exposed graded surfaces will be reseeded with ground cover vegetation to minimize erosion within 4 weeks of grading completion. This requirement will be noted on the building and grading plans.
- Erosion and sediment control measures will be in place throughout grading and development of the site until all disturbed areas are permanently stabilized.
- Construction materials and waste, such as paint, mortar, concrete slurry, fuels, etc., will be stored, handled, and disposed of in a manner which minimizes the potential for storm water contamination. Bulk storage locations for construction materials, and any measures proposed to contain the materials, will be shown on the building and grading plans.
- A copy of the updated SWPPP will be maintained on the Project site during grading and construction activities.

GSD will additionally implement BMPs to reduce fugitive dust and to follow the Santa Barbara County Grading Code Section 14.23, Dust Control by:

- Wetting, protecting, or containing all graded surfaces and materials, whether filled, excavated, transported, or stockpiled, in such a manner as to prevent the generation of dust.

## **2.7 Required Permits and Approvals**

### ***2.7.1 Regional and Local Permits and Approvals***

The proposed Project is located within the permitting jurisdiction of the County of Santa Barbara, with the certified Local Coastal Program as the standard of review. Based on consultation with County planning staff, the Project will require a Conditional Use Permit (CUP), Development Plan (DVP) Review, and Coastal Development Permit (CDP). There may also be ministerial local permits required, such as grading, stockpiling, building, electrical, etc.

Additionally, this Project will require a Santa Barbara County Air Pollution Control District (SBCAPCD) authority to construct (ATC) and, once operational, a permit to operate (PTO) for the new Thermal Dryer, Thermal Fluid Heater, pelletizer and cake handling equipment, and fire pump engine, as well as associated abatement devices for permitted equipment. An application for an ATC was prepared and submitted to the SBCAPCD for the proposed Project on May 8, 2025.

### ***2.7.2 California Permits and Approvals***

The Project is also located within the California Coastal Commission (CCC) appeals jurisdiction, meaning that any local permit decision may be appealed to CCC by a member of the public or two commissioners.

### ***2.7.3 Federal Permits and Approvals***

Due to the location of the GSD WRRF adjacent to the SBA, the Project will also require a Notice of Proposed Construction (Form 7460-1) to the Federal Aviation Administration (FAA).

### 3.0 ENVIRONMENTAL CHECKLIST

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed Project. No topical areas on the CEQA environmental checklist were found to have mitigated impacts exceeding applicable thresholds of significance.

#### 3.1 General Information

|                                             |                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title:</b>                       | Solids Handling Improvement Project                                                                                                                                                                                                                                                                                                 |
| <b>Lead Agency:</b>                         | Goleta Sanitary District<br>One William Moffett Place<br>Goleta, CA 93117                                                                                                                                                                                                                                                           |
| <b>Contact Person and Phone Number:</b>     | Steve D. Wagner, PE<br>General Manager/District Engineer<br>Office: (805)967-4519                                                                                                                                                                                                                                                   |
| <b>Project Location:</b>                    | Goleta Sanitary District<br>One William Moffett Place<br>Goleta, CA 93117                                                                                                                                                                                                                                                           |
| <b>Applicant:</b>                           | Goleta Sanitary District<br>One William Moffett Place<br>Goleta, CA 93117                                                                                                                                                                                                                                                           |
| <b>APN</b>                                  | 071-200-019, 071-200-024                                                                                                                                                                                                                                                                                                            |
| <b>Community Plan Land Use Designation:</b> | UT – Public Utility                                                                                                                                                                                                                                                                                                                 |
| <b>Zoning Designation:</b>                  | PU – Public Utilities                                                                                                                                                                                                                                                                                                               |
| <b>Description of Project:</b>              | See Chapter 2                                                                                                                                                                                                                                                                                                                       |
| <b>Surrounding Land Uses and Setting:</b>   | To the north and west lies the SBA. To the south is the Goleta Pier and Goleta Beach Park Recreational Area. To the east is an additional public utility area. To the northeast there are mixed land uses, including single family, multiple family, institutional, industrial, vacant, open space, and mobile home park land uses. |

### 3.2 Environmental Factors Potentially Affected

The following environmental impact areas have been assessed to determine their potential to be adversely affected by the proposed Project. As indicated by the checklist on the following pages, environmental topics marked with a “✓” may be adversely affected by the proposed Project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |                                                               |                                                         |                                                                        |
|---------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics                           | <input type="checkbox"/> Agriculture/Forestry Resources | <input type="checkbox"/> Air Quality                                   |
| <input checked="" type="checkbox"/> Biological Resources      | <input checked="" type="checkbox"/> Cultural Resources  | <input type="checkbox"/> Energy                                        |
| <input checked="" type="checkbox"/> Geology/Soils             | <input type="checkbox"/> Greenhouse Gas Emissions       | <input type="checkbox"/> Hazards and Hazardous Materials               |
| <input type="checkbox"/> Hydrology/Water Quality              | <input type="checkbox"/> Land Use/Planning              | <input type="checkbox"/> Mineral Resources                             |
| <input type="checkbox"/> Noise                                | <input type="checkbox"/> Population/Housing             | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                           | <input type="checkbox"/> Transportation                 | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input checked="" type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire                       | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

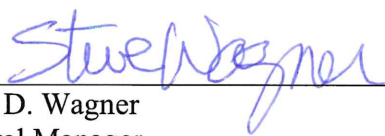


### 3.3 Determination

On the basis of this initial evaluation:

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

Signature: \_\_\_\_\_

  
Steve D. Wagner  
General Manager  
Goleta Sanitary District

Date: 10/8/2025

### 3.4 Environmental Checklist and Discussion

This section provides a discussion of the potential environmental impacts of the proposed Project. The evaluation of environmental impacts follows the questions provided in the Appendix G Checklist.

For each question listed in the Appendix G checklist, a determination of the level of significance of the impact is provided. Impacts are assigned to one of the following categories:

- A designation of no impact is given when no adverse changes in the environment are expected;
- A less than significant impact would cause no substantial adverse change in the environment;
- A less than significant impact with mitigation incorporated would have a substantial adverse impact on the environment but could be reduced to a less than significant level with incorporation of mitigation measure(s); and
- A potentially significant impact would cause a substantial adverse effect on the environment and no feasible mitigation measures would be available to reduce the impact to a less than significant level.

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

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

Once it is determined that a particular physical impact may occur, then the checklist answers must indicate if the impact is potentially significant, less than significant with mitigation, or less than significant.

“Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more Potentially Significant Impact entries when the determination is made, an Environmental Impact Report (EIR) is required.

“Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from Potentially Significant Impact to a Less Than Significant Impact. Mitigation measures are identified and explain how they reduce the effect to a less than significant level.

Explanation of each issue identifies:

1. The significance criteria or threshold, if any, used to evaluate each question; and
2. The mitigation measure identified, if any, to reduce the impact to less than significant.

## I. Aesthetics

| Issues                                                                                                                                                                                                                                                                                                                                                                     | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>I. Aesthetics.</b> Except as provided in Public Resources Code Section 21099, would the project:                                                                                                                                                                                                                                                                        |                                |                                                    |                                     |                                     |
| a) Have a substantial adverse effect on a scenic vista?                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" 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) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" 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"/>            |

### ***Existing Conditions:***

The Project components will be located entirely within the existing facility footprint, and no additional land will be needed to accommodate the new thermal dryer facility. The new Thermal Dryer Building and Electrical Building will be located in an area currently occupied by a sludge drying bed. The addition of thermal drying facilities will reduce the need for sludge drying beds.

### ***Environmental Determination:***

#### ***a) Have a substantial adverse effect on a scenic vista?***

Impact: No Impact

The proposed Project would not have an adverse effect on scenic vistas. The proposed Project site is located entirely within the existing GSD WRRF and includes facilities that are similar in height, scale, and mass to those currently on the existing GSD WRRF. The proposed Project does not contain any buildings or structures that are significantly higher than the existing buildings at the site. The opportunities for views from vantage points

adjacent to the site would remain similar to existing conditions. There would be no impact on scenic vistas generated by the proposed Project.

***b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

Impact: No Impact

The proposed Project would not have a substantial adverse effect on scenic resources, including those located within a designated scenic highway. The site is bounded by Moffett Place to the west and north and CA-217 to the east. There are no designated State Scenic Highways, County Scenic Highways, National Scenic Byways, Historic Parkways, or eligible State Scenic Highways near or within view of the proposed Project site. The nearest scenic highway is U.S. Highway 101, north of the City of Goleta, more than 5 miles away. The nearest eligible, but not designated, highway is U.S. Highway 101, more than a mile due north of the proposed Project. The proposed Project site includes pavement, lawn areas, and buildings, and no rock outcroppings, trees, historic buildings, or other physical features that would constitute important scenic resources. Therefore, the proposed Project would not result in impacts to scenic resources located within a designated scenic highway.

***c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

Impact: Less Than Significant Impact

The proposed Project would not substantially degrade the existing visual character or the visual quality of the Project site and its surroundings. The Project site is within the existing GSD facility. The proposed Project includes facilities that are similar in height and scale to those currently on the existing site. The proposed Project components are not expected to be visible from Goleta Beach Park, located approximately 0.3 miles to the south, since the view is blocked by other WRRF existing components and CA-217. Therefore, the proposed Project is not expected to substantially alter the existing visual character of the site or its surroundings.

***d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

Impact: Less Than Significant Impact

The proposed Project would not adversely affect day or nighttime views in the area through the addition of new sources of light or glare. The closest residential development to the GSD property consists of residences located 500 feet to the east of the facility. Potential new sources of light as part of the proposed Project would be exterior lights and security lighting, which would create a minimal amount of light or glare above the existing conditions and be located far from any receptor that could be sensitive to additional light.

***Mitigation Measures:***

No mitigation is required.

## II. Agriculture and Forestry Resources

| Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| <b>II. Agriculture and Forestry Resources.</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: |                                |                                                    |                              |                                     |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural 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, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

***Existing Conditions:***

The Project site does not contain any agricultural or forestry resources.

***Environmental Determination:***

- 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?***

Impact: No Impact

The proposed Project would not convert farmland to non-agricultural uses. The Project site is in a coastal area surrounded by the SBA, undeveloped coastal habitat, residences, and businesses, and is currently developed with asphalt, concrete walkways, concrete equipment, and office and maintenance buildings. The Project site was not mapped or designated as farmland by the Farmland Mapping and Monitoring Program (California Department of Conservation 2018). The Santa Barbara County Important Farmland Map 2018 designated the Project site as urban and built-up land (California Department of Conservation 2018). Therefore, no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?***

Impact: No Impact

The proposed Project would not conflict with agricultural zoning or a Williamson Act contract. The Project site is in mixed undeveloped coastal habitat area with scattered development, and the SBA and is presently zoned Public Utility (Santa Barbara County Planning & Development 2018). Further, the County of Santa Barbara Williamson Act Land Map 2015 does not designate the area as an Agricultural Preserve (Agricultural Preserve of Santa Barbara County, 2015).

- c) Conflict with existing zoning for, or cause rezoning of, forestland (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))?***

Impact: No Impact

The proposed Project is not located within forest land, timberland, or timberland-zoned Timberland Production. As a result, the proposed Project would not conflict with, or cause any alteration to, existing zoning for forest land, timberland, or timberland-zoned Timberland Production. This is apparent in “California’s Forest Resources: Forest Inventory and Analysis, 2001–2010,” where the site and the surrounding area are not forested or a forest plot.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?***

Impact: No Impact

The proposed Project is not within forest land, will not result in the loss of forest land, and will not convert forest land to non-forest use. “California’s Forest Resources: Forest



Inventory and Analysis, 2001–2010” shows that the site and surrounding area are not forested or a forest plot.

*e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

Impact: No Impact

Implementation of the proposed Project would not result in changes to the environment that could convert farmland to non-agricultural uses. The Project site is currently developed with asphalt, concrete walkways, concrete equipment, and office and maintenance buildings. The proposed Project would include improvements within an existing facility that is currently covered with asphalt, concrete, or planted lawn. Therefore, the proposed Project would not result in the conversion of farmland to non-agricultural uses.

***Mitigation Measures:***

No mitigation is required.

### III. Air Quality

| Issues                                                                                                                                                                                                                                          | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| <b>III. Air Quality.</b> Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project: |                                |                                                    |                                     |                          |
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                                                                                                                                                 | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?                                               | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations?                                                                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?                                                                                                                               | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

#### *Existing Conditions:*

Currently, GSD operates the WRRF that emits criteria pollutants from the combustion of digester gas in boilers or flares and the combustion of diesel in emergency generators. Additionally, there are some health-risk-associated toxic air contaminant (TAC) emissions from wastewater treatment operations. The proposed Project will include new sources of emissions, e.g., the Thermal Dryer, fire pump engine, and Thermal Fluid Heater, but is not anticipated to significantly increase the emissions of air pollutants or TACs from the existing sources at the facility.

#### *Regional Climate*

The following discussion is taken from the SBCAPCD's 2010 Clean Air Plan (SBCAPCD 2011).

Santa Barbara County's air quality is influenced by both local topography and meteorological conditions. Surface and upper-level wind flow varies both seasonally and geographically in the County, and inversion conditions common to the area can affect the vertical mixing and dispersion of pollutants. The prevailing wind flow patterns in the County are not necessarily those that cause high ozone values. In fact, high ozone values

are often associated with atypical wind flow patterns. Meteorological and topographical influences that are important to air quality in Santa Barbara County are as follows:

- Semi-permanent high pressure that lies off the Pacific Coast leads to limited rainfall (around 16 inches per year), with warm, dry summers and relatively damp winters. Maximum summer temperatures average about 70 degrees Fahrenheit (°F) near the coast and in the high 80s to 90s inland. During winter, average minimum temperatures range from the 40s along the coast to the 30s inland. Additionally, cool, humid, marine air causes frequent fog and low clouds along the coast, generally during the night and morning hours in the late spring and early summer. The fog and low clouds can persist for several days until broken up by a change in the weather pattern.
- In the northern portion of the County (north of the ridgeline of the Santa Ynez Mountains), the sea breeze (from sea to land) is typically northwesterly throughout the year, while the prevailing sea breeze in the southern portion of the County is from the southwest. During summer, these winds are stronger and persist later into the night. At night, the sea breeze weakens and is replaced by light land breezes (from land to sea). The alternation of the land-sea breeze cycle can sometimes produce a “sloshing” effect, where pollutants are swept offshore at night and subsequently carried back onshore during the day. This effect is exacerbated during periods when wind speeds are low.
- The terrain around Point Conception, combined with the change in orientation of the coastline from north-south to east-west, can cause counterclockwise circulation (eddy) to form east of the Point. These eddies fluctuate temporally and spatially, often leading to highly variable winds along the southern coastal strip. Point Conception also marks the change in the prevailing surface winds from northwesterly to southwesterly.
- Santa Ana winds are northeasterly winds that occur primarily during fall and winter, but occasionally in spring. These are warm, dry winds that blow from the high inland desert and descend down the slopes of a mountain range. Wind speeds associated with Santa Ana winds are generally 15 to 20 miles per hour (mph), though they can sometimes reach speeds in excess of 60 mph. During Santa Ana conditions, pollutants emitted in Santa Barbara County, Ventura County, and the South Coast Air Basin (the Los Angeles region) are moved out to sea. These pollutants can then be moved back onshore into Santa Barbara County in what is called a “post-Santa Ana condition.” The effects of the post-Santa Ana condition can be experienced throughout the County. Not all post-Santa Ana conditions, however, lead to high pollutant concentrations in Santa Barbara County.
- Upper-level winds (measured at Vandenberg Air Force Base once each morning and afternoon) are generally from the north or northwest throughout the year, but southerly and easterly winds do occur in winter, especially during the morning. Upper-level winds from the south and east are infrequent during the summer. When they do occur during summer, they are usually associated with periods of high ozone levels. Surface and upper-level winds can move pollutants that originate in other areas into the County.

- Surface temperature inversions (0-500 feet) are most frequent during the winter, and subsidence inversions (1,000-2,000 feet) are most frequent during the summer. Inversions are an increase in temperature with elevation and are directly related to atmospheric stability. Inversions act as a cap to the pollutants that are emitted below or within them, and ozone concentrations are often higher directly below the base of an elevated inversion than they are at the Earth's surface. For this reason, elevated monitoring sites will occasionally record higher ozone concentrations than sites at lower elevations. Generally, the lower the inversion base height and the greater the rate of temperature increase from the base to the top, the more pronounced effect the inversion will have on inhibiting vertical dispersion. The subsidence inversion is very common during the summer along the California coast and is one of the principal causes of air stagnation.
- Poor air quality is usually associated with "air stagnation" (high stability/restricted air movement). Therefore, it is reasonable to expect a higher frequency of pollution events in the southern portion of the county where light winds are frequently observed, as opposed to the northern part of the county, where the prevailing winds are usually strong and persistent.

### ***Regulatory Setting:***

#### *Federal and State Clean Air Acts*

The Federal Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The federal CAA of 1970 forms the basis for the national air pollution control effort. Basic elements of the CAA include provisions for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) for major air pollutants (Title I), motor vehicle emissions and fuel standards (Title II), hazardous air pollutant standards (Title III), and stratospheric ozone protection (Title VI). The 1970 CAA Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration (PSD) Program, which regulates stationary sources. The amendments identified specific emission reduction goals, required a demonstration of both reasonable further progress and attainment by specified dates, and incorporated more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones. The 1990 Amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the U.S. The current NAAQS, along with the SBCAPCD's attainment status for the NAAQS, are listed in Table 3-1. As indicated, the averaging times for the various air quality standards (the duration over which they are measured) range from 1 hour to an annual basis. The standards are read as a concentration, in parts per million (ppm), or as a weighted mass of material per a volume of air, in milligrams or micrograms of pollutant per cubic meter of air ( $\text{mg}/\text{m}^3$  or  $\mu\text{g}/\text{m}^3$ , respectively).

In 1988, the State Legislature passed the California Clean Air Act (CCAA), which established California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress for the first time. The CCAA provides the State with a comprehensive framework for air quality planning regulation. The CCAA requires attainment of California

Ambient Air Quality Standards (CAAQS) by the earliest practicable date. Attainment Plans are required for air basins in violation of the State ozone, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), or nitrogen dioxide (NO<sub>2</sub>) standards. Preparation of and adherence to Attainment Plans are the responsibility of the local air pollution control districts or air quality management districts. The CAAQS are more stringent than the corresponding NAAQS. The CAAQS, along with the SBCAPCD's attainment status for the CAAQS, are also summarized in Table 3-1, which comes from the SBCAPCD's Webpage "Meeting Air Quality Standards", accessed in April 2025.

**Table 3-1: CAAQS, NAAQS, and SBCAPCD Attainment Status**

| Pollutant                     | Averaging Time          | California Standards                 |                        | National Standards                    |                        |
|-------------------------------|-------------------------|--------------------------------------|------------------------|---------------------------------------|------------------------|
|                               |                         | Pollutant Concentration              | Attainment Designation | Pollutant Concentration               | Attainment Designation |
| Ozone                         | 8 hour                  | 0.070 ppm                            | NA-T                   | 0.070 ppm                             | A/U                    |
|                               | 1 hour                  | 0.09 ppm                             |                        | Revoked                               | —                      |
| Nitrogen Dioxide              | annual arithmetic mean  | 0.030 ppm<br>(56 µg/m <sup>3</sup> ) | A                      | 0.053 ppm<br>(100 µg/m <sup>3</sup> ) | A/U                    |
|                               | 1 hour                  | 0.18 ppm<br>(338 µg/m <sup>3</sup> ) |                        | 0.10 ppm<br>(188 µg/m <sup>3</sup> )  | A/U                    |
| Sulfur Dioxide                | 24 hour                 | 0.04 ppm<br>(105 µg/m <sup>3</sup> ) | A                      | Revoked                               | —                      |
|                               | 1 hour                  | 0.25 ppm<br>(655 µg/m <sup>3</sup> ) |                        | 0.075 ppm<br>(196 µg/m <sup>3</sup> ) | A/U                    |
| Carbon Monoxide               | 8 hour                  | 9.0 ppm<br>(10 mg/m <sup>3</sup> )   | A                      | 9 ppm<br>(10 mg/m <sup>3</sup> )      | A/U                    |
|                               | 1 hour                  | 20 ppm<br>(23 mg/m <sup>3</sup> )    |                        | 35 ppm<br>(40 mg/m <sup>3</sup> )     |                        |
| Respirable Particulate Matter | annual arithmetic mean  | 20 µg/m <sup>3</sup>                 | N                      | Revoked                               | —                      |
|                               | 24-hour                 | 50 µg/m <sup>3</sup>                 |                        | 150 µg/m <sup>3</sup>                 | U                      |
| Fine Particulate Matter       | annual arithmetic mean  | 12 µg/m <sup>3</sup>                 | U                      | 9.0 µg/m <sup>3</sup>                 | A/U                    |
|                               | 24-hour                 | —                                    | —                      | 35 µg/m <sup>3</sup>                  | A/U                    |
| Lead                          | Rolling 3-month average | —                                    | —                      | 0.15 µg/m <sup>3</sup>                | A/U                    |
|                               | 30-day average          | 1.5 µg/m <sup>3</sup>                | A                      | —                                     | —                      |

| Pollutant                     | Averaging Time               | California Standards                       |                        | National Standards      |                        |
|-------------------------------|------------------------------|--------------------------------------------|------------------------|-------------------------|------------------------|
|                               |                              | Pollutant Concentration                    | Attainment Designation | Pollutant Concentration | Attainment Designation |
| Sulfates                      | 24-hour                      | 25 $\mu\text{g}/\text{m}^3$                | A                      | No National Standards   |                        |
| Hydrogen Sulfide              | 1 hour                       | 0.03 ppm<br>(42 $\mu\text{g}/\text{m}^3$ ) | A                      |                         |                        |
| Vinyl Chloride (chloroethene) | 24 hour                      | 0.01 ppm<br>(26 $\mu\text{g}/\text{m}^3$ ) | —                      |                         |                        |
| Visibility Reducing Particles | 8 hour<br>(1000 to 1800 PST) | See Note #1                                | U                      |                         |                        |

Legend:

A = Attainment;  
NA-T = Nonattainment-Transitional;  
N = Nonattainment;  
U = Unclassified;  
A/U = Attainment/Unclassifiable;  
— = No Standard.

$\text{mg}/\text{m}^3$  = milligrams per cubic meter;  
 $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter;  
ppm = parts per million;  
ppb = parts per billion;

Note #1: Statewide Visibility Reducing Particles Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70%. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Note #2: Recent EPA federal registers have established that the “Attainment/Unclassifiable” designation is clearer than “Unclassifiable/Attainment”, and that re-ordering the terms has no regulatory consequence.

### General Air Conformity

Section 176(c)(1) of the CAA requires federal agencies to ensure that their actions conform to applicable implementation plans for achieving and maintaining the NAAQS for criteria pollutants. Specifically, for there to be conformity, a federal action must not contribute to new violations of standards for ambient air quality, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (e.g., a state or a smaller air quality region). SBCAPCD has adopted the general conformity requirements in Rule 702. Rule 702 mirrors the federal general conformity requirements with the exception of Section 51.860, Mitigation Measures.

Air conformity requirements only apply to activities taking place in a federal nonattainment area and for those pollutants for which the area is in nonattainment. If an area has been in attainment for a standard since the standard was promulgated, the area is not subject to conformity review unless it comes into nonattainment. If an area has been in nonattainment any time after the promulgation of a standard, it is subject to conformity review, even if it comes into attainment at some later time.



### *Prevention of Significant Deterioration Program*

The EPA oversees the PSD Program. The purpose of the PSD Program is to provide for the review of new and modified stationary sources of air pollution. PSD Program requirements apply to all new stationary sources, and all modifications to existing stationary sources, which would emit or may emit any attainment pollutants. The PSD Program applies to major stationary sources with annual emissions exceeding either 100 or 250 tons per year, depending on the source, or that cause, or contribute, to adverse impacts to any federally classified Class I area.

SBCAPCD adopted rules and regulations to address PSD, which include a series of New Source Review rules, to ensure compliance and protection of Class I areas. In summary, Best Available Control Technology (BACT) must be applied to a new stationary source, or modification of an existing source, for any emissions increase of any attainment pollutant which is equal to or greater than any emission level shown in SBCAPCD Rule 803, Prevention of Significant Deterioration. BACT shall be implemented to reduce emissions for each pollutant to the maximum extent through modifications to production processes or available methods, systems, or techniques while taking into account energy demand, costs, and environmental and economic impacts. These may include fuel cleaning or treatment techniques or innovative fuel combustion techniques for control of such pollutants.

### *Ozone Plan*

The most recent air quality plan for the SBCAPCD is the 2022 Ozone Plan (Ozone Plan). Consistency with the Ozone Plan means that direct and indirect emissions associated with the Project are accounted for in the Ozone Plan's emissions growth assumptions and the Project is consistent with policies adopted in the Ozone Plan. The Ozone Plan relies primarily on the land use and population projections provided by the Santa Barbara County Association of Governments (SBCAG) and California Air Resources Board (CARB) on-road emissions forecast as a basis for vehicle emission forecasting. In addition, the County requires a consistency analysis with the Air Quality Supplement of the County's Comprehensive Plan Land Use Element.

As shown in Table 3-1, the County is classified nonattainment-transitional for the state standards for ozone and nonattainment for the state standards for respirable particulate matter (PM<sub>10</sub>). Ozone air pollution is formed when reactive organic compounds (ROC) (also referred to as reactive organic gases) and nitrogen oxides (NO<sub>x</sub>) react in the presence of sunlight, and hence ROC and NO<sub>x</sub> are precursors to ozone. Ozone is a regional pollutant; ozone concentrations throughout the County do not always correspond with the location of sources of the ozone precursors ROC and NO<sub>x</sub>. The major sources of ozone precursor emissions in the County are motor vehicles, the petroleum industry, and solvent usage (paints, consumer products, and certain industrial processes). The SBCAPCD considers ROC, NO<sub>x</sub>, and sulfur oxides (SO<sub>x</sub>) to be particulate matter (PM) precursors. Sources of PM<sub>10</sub> include fuel combustion, mineral quarries, grading, demolition and construction activities, agricultural tilling, road dust, and vehicle exhaust.

### *SBCAPCD Regulations*

This section reviews various SBCAPCD regulations/rules that are applicable to the proposed Project. As noted in Section 2.7, this Project will require a SBCAPCD ATC permit and, once operational, a PTO for the new Thermal Dryer, Thermal Fluid Heater, pelletizer, and cake handling equipment, including an associated abatement device. An application for an ATC is being prepared simultaneously with this MND and is planned to be submitted to the SBCAPCD for the proposed Project in April or May 2025. A determination of the rule requirements, including the new source review Best Available Control Technology (BACT) and offset requirements will be made by the SDAPCD during application processing. The expected requirements are discussed below.

- **Rule 302, Visible Emissions:** Rule 302 requires that air contaminants discharged to the atmosphere not be as dark as or darker than No. 1 on the Ringelmann chart. The dryer is enclosed and will not have visible emissions. The heater will be properly maintained, and visible emissions are not expected.
- **Rule 303, Nuisance:** Rule 303 requires that air contaminants discharged from a source not contribute to a nuisance. The dryer is enclosed in a building, which is unlikely to contribute to nuisance. The heater will be properly operated and maintained and is unlikely to cause a nuisance.
- **Rule 305, Particulate Matter – Southern Zone:** Rule 305 limits the concentration of PM to less than the limits shown in Table 305(a) of the rule. This rule is applicable only to the proposed heater which will discharge less than 1,000 dry standard cubic feet per minute (dscfm) and the concentration of PM<sub>10</sub> in exhaust will be less than 0.2 grains per dry standard cubic feet (gr/dscf). The PM<sub>10</sub> emissions from the heater are 0.05 gr/dscf, which will be well below this threshold.
- **Rule 309, Specific Contaminants:** Rule 309 has requirements for the discharge of NO<sub>x</sub>, combustion contaminants, and SO<sub>x</sub> from fuel-burning equipment. This rule is applicable only to the proposed heater. New fuel-burning equipment shall not discharge more than 200 pounds per hour (lb/hr) of SO<sub>x</sub>, 140 lb/hr of NO<sub>x</sub>, and 10 lb/hr of combustion contaminants derived from fuel. There is an additional combustion contaminants limit for the Southern Zone of 0.1 grains per cubic foot at 12% carbon dioxide (CO<sub>2</sub>). Rule 309(F) applies to equipment in the Southern Zone having a maximum heat input rate of more than 1,775 million British thermal units per hour (MMBtu/hr) (gross) and Rule 309(G) limits CO concentrations from equipment in the Southern Zone. These emissions limits are expected to be met.
- **Rule 311, Sulfur Content of Fuels:** Rule 311 regulates the sulfur content of fuels and is applicable to the heater. The PTO currently limits gaseous fuels burned at the WRRF to 239 parts per million by volume, dry (ppmvd) and this limit does not need to be modified for the SHIP.
- **Rule 333, Control of Emissions from Reciprocating Internal Combustion Engines:** Rule 333 regulates emissions from internal combustion engines. This rule does not apply to the fire pump engine, per Rule 333 B.1.d., because the engine is an emergency standby engine under CCR, Title 17, Section 93115.4(a)(29)(A) and is used for mechanical work during an emergency (pumping water in case of a fire)

and is not the source of primary power at the facility. Although the rule does not apply, the engine will be Tier 3 and is expected to meet the emission standards of the rule.

- **Rule 342, Boilers, Steam Generators, and Process Heaters (5 MMBtu/hr and Greater):** Rule 342 contains emission limits for boilers, steam generators, and process heaters and is applicable to the proposed heater. The rule requires that heaters fueled by natural gas with rated heat input from 5 to 20 MMBtu/hr meet the emission standards of 9 ppmvd @ 3% oxygen for NO<sub>x</sub> and 400 ppmvd for CO. The thermal fluid heater is expected to meet these limits.
- **Regulation VIII – New Source Review**
  - BACT: Rule 802(D) requires that the applicant apply BACT if the new or modified sources have a potential to emit that exceeds 25 lbs/day of ROC, NO<sub>x</sub>, PM<sub>10</sub>, or SO<sub>x</sub> or 500 lbs/day of CO. Per SBCAPCD policy, the emission limits from SBCAPCD rules are used for calculating emissions for determining BACT thresholds and the more stringent nonattainment BACT thresholds for NO<sub>x</sub>, SO<sub>x</sub>, and ROC would be applicable. The proposed Project may be subject to ROC BACT.
  - Offsets: Table 3 of Rule 802 provides the offset threshold of 25 tons/year for nonattainment pollutants and precursors. The emissions for the proposed Project are expected to be below this threshold and offsets are not expected to be required.
  - Air Quality Impact Analysis: Rule 802(F) requires an air quality impact analysis (AQIA) if the new or modified stationary source has potential emissions of any pollutant or its precursors equal to or greater than the thresholds in the Rule. Rule 802(G) requires pre- or post-construction monitoring if PM<sub>10</sub> or PM<sub>2.5</sub> exceed the thresholds for these pollutants or if any other attainment pollutants exceed 240 lb/day. Similarly, Rule 802(H) requires a Visibility, Soils, and Vegetation Analysis if emissions exceed these same thresholds. The Project facility emissions are not expected to exceed any of these thresholds.
- **Rule 204, Applications:** This rule specifies the information that is required to be in a complete ATC application. Section E.6 identifies when an air toxics Health Risk Assessment (HRA) is needed. An HRA for this project was prepared in accordance with the SBCAPCD December 2023 Modeling Guidelines for Health Risk Assessments, also known as Form-15i. The results of the HRA are discussed in the Environmental Discussion section below.

### ***Significance Criteria:***

The Air Quality Section of the Santa Barbara County Environmental Thresholds and Guidelines Manual (2021), the SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents (2022), and the SBCAPCD Environmental Review Guidelines (2015) contain air quality significance criteria. Where applicable, quantitative significance criteria established by the local air quality management district or air pollution control

district may be relied upon to make significance determinations based on mass emissions of criteria pollutants.

The existing air quality based on the area's status with respect to the CAAQS/NAAQS is a factor in determining if emissions from a project have the potential to cause a significant air quality impact. The current attainment status of Santa Barbara County with respect to the CAAQS and NAAQS is provided in Table 3-1.

The SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents (2022) discusses the significance criteria for projects where the SBCAPCD is a Lead, Responsible, or Concerned Agency. Most of the discussion of thresholds is focused on the long-term operation of permanent stationary sources. The SBCAPCD Board did not adopt quantitative significance thresholds for temporary short-term construction projects; however, they do provide guidance. The SBCAPCD recommends that construction-related  $\text{NO}_x$ , ROC,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$  emissions from diesel- and gasoline-powered equipment, paving, and other activities be quantified. No quantitative threshold has been established for short-term, construction-related  $\text{PM}_{10}$  (which is 50% of total dust). However, since the County violates the state standard for  $\text{PM}_{10}$ , dust mitigation measures are required as a condition of the County Grading Ordinance. The short-term thresholds for  $\text{NO}_x$  and ROC emissions from construction equipment have also not been established by the County. Emissions of  $\text{NO}_x$  from construction equipment in the County are estimated at 1,000 tons per year of  $\text{NO}_x$ . When compared to the total  $\text{NO}_x$  emission inventory for the County of approximately 17,000 tons per year, construction emissions comprise approximately 6% of the 1990 Countywide emission inventory for  $\text{NO}_x$ . The County considers this amount insignificant (County of Santa Barbara Planning and Development Department 2021). However, if the grading and construction emissions are associated with a stationary source for which an SBCAPCD permit is required, then SBCAPCD Rules and Regulations will apply.

For ongoing operations, the SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents (2022) states:

*A proposed project will not have a significant impact on air quality, either individually or cumulatively, if operation of the project will:*

- *emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule, for any pollutant (i.e., 240 pounds/day for ROC or  $\text{NO}_x$ ; and 80 lbs/day for  $\text{PM}_{10}$ . There is no daily operational threshold for CO; it is an attainment pollutant); and*
- *emit less than 25 pounds per day of  $\text{NO}_x$  or ROC from motor vehicle trips only; and*
- *not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and*
- *not exceed the APCD health risk public notification thresholds adopted by the APCD Board (10 excess cancer cases in a million for cancer risk and a Hazard Index of more than 1.0 for non-cancer risk); and*

- *be consistent with the latest adopted federal and state air quality plans for Santa Barbara County.*

Both the SBCAPCD and the County use the same thresholds for motor vehicle-related, long-term emissions (25 pounds per day of ROC or NO<sub>x</sub>). The difference lies in the significance threshold for total project emissions because the types of projects considered by the SBCAPCD as the lead agency differ from the land-use projects. The County Board of Supervisors also considers construction equipment emissions to be insignificant (as adopted in the County Environmental Thresholds and Guidelines Manual in April 1994) while the SBCAPCD Board deferred the adoption construction thresholds. Thresholds derived from these guidelines are summarized in Table 3-2.

**Table 3-2 SBCAPCD Significance Thresholds for Criteria and Toxic Air Pollutants**

| Pollutant <sup>1</sup>                           | Project Construction                                        | Project Operation                       |
|--------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|
| ROC                                              | 25 tons/year                                                | 240 lb/day                              |
|                                                  |                                                             | 25 lb/day<br>(motor vehicle trips only) |
| NO <sub>x</sub>                                  | 25 tons/year                                                | 240 lb/day                              |
|                                                  |                                                             | 25 lb/day<br>(motor vehicle trips only) |
| PM <sub>10</sub>                                 | —                                                           | 80 lb/day                               |
| TACs (including carcinogens and non-carcinogens) | Maximum Cancer Risk $\geq 10$ in one million                |                                         |
|                                                  | Chronic & Acute Hazard Index $\geq 1.0$ (project increment) |                                         |
| Odor                                             | Project creates an odor nuisance pursuant to Rule 402       |                                         |

1. SBCAPCD Guidelines only has thresholds for nonattainment pollutants or their precursors, so CO, SO<sub>x</sub>, or PM<sub>2.5</sub> are not included.

### **Methodology:**

The construction analysis for the proposed Project was performed using the California Emissions Estimator Model<sup>®</sup> (CalEEMod), version 2022.1.1.29, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and greenhouse gas (GHG) emissions associated with construction and operations of land use projects under CEQA. CalEEMod was developed by the California Air Pollution Control Officers Association in collaboration with the SBCAPCD and other California air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction and land use operational (i.e., mobile, energy and water use, etc.) emissions quantification, which forms the basis for the impact analyses.

### **Construction:**

The Project is expected to require up to approximately 1.5 years of planned work activities (i.e., from mobilization to substantial completion). A preliminary construction schedule is shown in Table 2-1. The proposed list of offroad equipment for each construction phase is shown in Table 2-4. CalEEMod defaults were used for the offroad construction equipment

load factor and horsepower (hp). CalEEMod default age-weighted fleet average off-road equipment emission factors were applied.

Import/Export volumes and trip counts were provided by Hazen. The CalEEMod default distances of 8.8 miles and 5.3 miles were used for the worker and vendor trips, respectively. The CalEEMod default distance of 20 was used for the hauling trips for the demolition phase. It was assumed that during the Building Construction A phase, concrete trucks and trailer/tractors delivering rebar would be coming to the Project site from local locations and trailer/tractors delivering miscellaneous equipment from pipe to pumps would be coming the Project site from the Port of Long Beach. Because only one hauling entry is allowed per phase in CalEEMod, the mileages for the Building Construction A phase were calculated using an average distance (i.e., 39 miles). The CalEEMod default distance of 20 miles for the hauling trips was also used for local deliveries. Table 3-3 summarizes the construction trip rates and mileages.

**Table 3-3: Proposed Project Construction Traffic Summary**

| Phase No. | Phase Name                               | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix     |
|-----------|------------------------------------------|-----------|-----------------------|----------------|-----------------|
| 1         | Demolition                               | Hauling   | 6.8                   | 20.0           | HHDT            |
|           |                                          | Worker    | 12.5                  | 8.8            | LDA, LDT1, LDT2 |
| 2         | Site Preparation                         | Hauling   | [141.0]               | 20.0           | HHDT            |
|           |                                          | Vendor    | [6.0]                 | 5.3            | HHDT, MHDT      |
|           |                                          | Worker    | 15.0                  | 8.8            | LDA, LDT1, LDT2 |
| 3         | Linear, Drainage, Utilities, & Sub-Grade | Worker    | 20.0                  | 8.8            | LDA, LDT1, LDT2 |
| 4         | Building Construction A                  | Hauling   | [82.0]                | [39.0]         | HHDT            |
|           |                                          | Vendor    | [6.0]                 | 5.3            | HHDT, MHDT      |
|           |                                          | Worker    | 9.0                   | 8.8            | LDA, LDT1, LDT2 |
| 5         | Building Construction B                  | Vendor    | [6.0]                 | 5.3            | HHDT, MHDT      |
|           |                                          | Worker    | 9.0                   | 8.8            | LDA, LDT1, LDT2 |
| 6         | Building Construction C                  | Vendor    | [6.0]                 | 5.3            | HHDT, MHDT      |
|           |                                          | Worker    | 9.0                   | 8.8            | LDA, LDT1, LDT2 |
| 7         | Architectural Coating                    | Worker    | 7.2                   | 8.8            | LDA, LDT1, LDT2 |
| 8         | Building Construction D                  | Vendor    | [6.0]                 | 5.3            | HHDT, MHDT      |
|           |                                          | Worker    | 9.0                   | 8.8            | LDA, LDT1, LDT2 |

Key: LDA = Light-Duty Automobile; LDT = Light-Duty Truck; MHDT = Medium-Heavy-Duty Truck; HHDT = Heavy-Heavy-Duty Truck

Notes:

- Trip rates and mileages are CalEEMod default values except those in brackets.
- Hauling trip rates for the demolition phase is CalEEMod default based on tons of materials, which is calculated from the square footage of concrete and asphalt surfaces to be demolished (version 2022.1.1.29). Hauling trip rates for the Site Preparation and Building Construction A phases were provided by Hazen.



- Vendor trip rates for the Site Preparation and Buildings Construction A-D phases were provided by Hazen. Vendor trip rates for the rest of the phases are CalEEMod default values (version 2022.1.1.29).
- Worker trip rates are CalEEMod default values (version 2022.1.1.29).
- All mileages except for hauling during the Building Construction A phase are CalEEMod default values (version 2022.1.1.29). Because only one hauling entry is allowed per phase in CalEEMod, the hauling mileages for the Building Construction A phase was calculated using an average mileage (i.e., 39 miles).

*Operation:*

The term “project operations” refers to the full range of activities that can or may generate criteria pollutant, GHG, and TAC emissions when the project is functioning in its intended use. CalEEMod estimates emissions from the following sources:

- “Mobile” sources, which include emissions from onroad vehicles required to operate the proposed Project;
- “Area” sources, which include emissions from consumer products, architectural coatings, and landscaping equipment;
- “Energy” sources, which include emissions from building electricity and natural gas usage (non-hearth);
- “Water and Wastewater”, which includes the GHG emissions associated with supplying and treating water and wastewater used and generated by the project land uses;
- “Waste”, which includes the GHG emissions at landfills associated with disposal of solid waste generated for each project land use subtype; and
- “Refrigerants”, which includes the fugitive GHG emissions associated with building air conditioning and refrigeration equipment.

Emissions from the abovementioned sources are collectively referred to as “Land Use” Emissions in this document.

For industrial projects and some commercial projects, equipment operation and manufacturing processes, i.e., permitted stationary sources, can be of greatest concern from an emissions standpoint. The stationary equipment that would contribute to the emissions of criteria pollutants, TACs, and GHGs during the operational phase are described in Section 2.5.

Emissions from combustion for each of these sources were calculated separately. Operational emissions are summarized in Table 3-5. Detailed emission calculations for stationary sources are included Appendix A2.

The following basic assumptions were used in developing the emissions estimates for the operational phase of the proposed Project:

- One additional permanent personnel is planned as part of this Project.
- Sludge hauling would be reduced from one truck a day, 7 days a week, to a maximum of two trucks per week. In order to be conservative, it is assumed that dried pellets would continue to be sent to the same location (i.e., Liberty

Composting facility in Lost Hills, CA), which is approximately 184 miles from the GSD WRRF.

The ongoing Project emissions from the proposed equipment were quantified using:

- EPA Compilation of Air Pollutant Emission Factors from Stationary Sources (AP-42) for PM and ROC. All PM was assumed to be PM<sub>2.5</sub> for the fluid heater;
- SBCAPCD Rule 342 limits for NO<sub>x</sub> and CO for the fluid heater;
- SBCAPCD Rule 311 limits for SO<sub>x</sub>;
- CARB ATCM requirements for fire pump engines (Tier 3 engine emission standards); and
- Particulate emissions estimated by the dryer manufacturer for the drying and pelletizing process, including abatement.

***Environmental Determination:***

***a) Conflict with or obstruct implementation of the applicable air quality plan?***

Impact: Less Than Significant Impact

A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable SBCAPCD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments, and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled (VMT) are also deemed to comply with the applicable air quality plan. The 2022 Ozone Plan was adopted by the SBCAPCD Board in 2022 and is the most recent applicable air quality plan. Santa Barbara County has been designated as nonattainment for the state ozone standards. The 2022 Ozone Plan is the 3-year update required by the state to show how the SBCAPCD plans to meet the state 1-hour and 8-hour ozone standards.

The 2022 Ozone Plan relies primarily on the land use and population projections provided by the SBCAG and CARB on-road emissions forecast as a basis for vehicle emission forecasting. Implementation of the proposed Project requires no change in zoning for the site; therefore, the proposed Project would not conflict with or propose to change existing land use or applicable land use policies as designated in the City's General Plan. Similarly, the Project does not have any growth inducing features. As such, the Project would not conflict with the applicable air quality plan. Thus, the Project is consistent with the 2022 Ozone Plan and project impacts would be less than significant.

***b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

Impact: Less Than Significant Impact

The SBCAPCD CEQA guidance documents indicate that the SBCAPCD does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, SBCAPCD uses 25 tons per year for ROC or NO<sub>x</sub> as a guideline for determining the significance of construction impacts. Because Santa Barbara County is nonattainment for PM<sub>10</sub>, all projects are expected to implement the listed BMPs for dust control during construction.

Both the SBCAPCD and the County suggest quantifying construction emissions. Based on the preliminary construction schedule, equipment list, and projected truck trips provided, Table 3-4 below shows that ROC and NO<sub>x</sub> construction emissions are well below the SBCAPCD suggested guideline of 25 tons per year and therefore, impacts are less than significant. Further details on the construction emissions can be found in Appendix A1. It should be noted that the construction schedule, equipment list, and daily trips are preliminary and subject to change, however since the ROC and NO<sub>x</sub> construction emissions are estimated to be well below the SBCAPCD suggested guideline of 25 tons per year, should any of those parameters change, the emissions are expected to remain below the threshold and impacts remain less than significant.

**Table 3-4: Project Construction Emissions**

| Criteria Pollutants     | Peak Emissions (lb/day) | Peak Emissions (tons/year) | SBCAPCD Guidelines Threshold (tons/year) | Significant? |
|-------------------------|-------------------------|----------------------------|------------------------------------------|--------------|
| ROC                     | 21.21                   | 0.25                       | 25                                       | No           |
| NO <sub>x</sub>         | 33.91                   | 2.07                       | 25                                       | No           |
| CO                      | 26.39                   | 1.45                       | —                                        | —            |
| SO <sub>x</sub>         | 0.11                    | 0.01                       | —                                        | —            |
| Total PM <sub>10</sub>  | 6.98                    | 0.34                       | —                                        | —            |
| Total PM <sub>2.5</sub> | 3.14                    | 0.14                       | —                                        | —            |

Sources: CalEEMod version 2022.1.1.29

Notes:

lbs/day are winter or summer maxima for planned land use.

Total PM<sub>10</sub>/PM<sub>2.5</sub> comprises fugitive dust plus engine exhaust.

Operational emissions were also quantified, as shown in Table 3-5. Emissions from the proposed equipment were calculated using emission factors from EPA's Compilation of Air Pollutant Emission Factors from Stationary Sources (AP-42), manufacturer specifications, and SBCAPCD rule limits. Emissions are compared to the Air Quality Impact Analysis (AQIA) and Offset Thresholds in the SBCAPCD New Source Review rules (in particular Rule 802), which are referenced by the SBCAPCD and Santa Barbara County CEQA guidelines and thresholds documents. The emissions as presented are controlled emissions, since the dryer and pelletizer have a PM control device. As shown in Table 3-5, the impacts would be considered less than significant.

**Table 3-5: Project Operational Emissions**

| Criteria Pollutants     | Project Emissions (lb/day) | Project Emissions (tons/year) | SBCAPCD Guidelines Threshold (lb/day) | AQIA Threshold (lb/day) | Offset Thresholds (tons/year) | Significant? |
|-------------------------|----------------------------|-------------------------------|---------------------------------------|-------------------------|-------------------------------|--------------|
| ROC                     | 2.59                       | 0.41                          | 240                                   | 120                     | 25                            | No           |
| NO <sub>x</sub>         | 6.27                       | 0.46                          | 240                                   | 120                     | 25                            | No           |
| CO                      | 46.54                      | 7.82                          | —                                     | 500                     | —                             | No           |
| SO <sub>x</sub>         | 0.30                       | 0.05                          | 240                                   | 120                     | 25                            | No           |
| Total PM <sub>10</sub>  | 5.34                       | 0.87                          | 80                                    | 80                      | 25                            | No           |
| Total PM <sub>2.5</sub> | 4.76                       | 0.82                          | —                                     | 55                      | 25                            | No           |

Notes:

SBCAPCD thresholds are “emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or AQIA set in the APCD New Source Review Rule, for any pollutant (i.e., 240 lbs/day for ROC or NO<sub>x</sub>; and 80 lb/day for PM<sub>10</sub>. There is no daily operational threshold for CO since it is an attainment pollutant).”

County thresholds are “emit (from all project sources, mobile and stationary), less than the daily trigger for offsets set in the APCD New Source Review Rule, for any pollutant.”

Operational emissions include “land use” emissions from CalEEMod (Appendix A1) as well as stationary sources emissions calculated in Appendix A2.

Total PM<sub>10</sub>/PM<sub>2.5</sub> comprises fugitive dust plus engine exhaust.

The proposed Project is expected to result in only one additional permanent employee and will reduce the sludge hauling trips from one truck a day, 7 days a week, to a maximum of two trucks per week. The SBCAPCD and the County of Santa Barbara have significance thresholds of 25 pounds per day of NO<sub>x</sub> or ROC from motor vehicle trips. As shown in Table 3-5 above, the Project will not exceed these thresholds, and the impacts are less than significant.

***c) Expose sensitive receptors to substantial pollutant concentrations?***

Impact: Less Than Significant Impact

The SBCAPCD’s and Santa Barbara County’s environmental thresholds indicate that a cancer risk of less than 10 in 1 million, and a chronic and acute hazard index of less than 1 would be less than significant impacts. A Health Risk Assessment (HRA) was completed for permitting and indicated that risks will be below these significance thresholds, as shown in Table 3-6. Source parameters, locations of the receptors, and additional assumptions for the HRA can be found in Appendix A3.

**Table 3-6: Project Related Health Risks**

| Health Risk                    | Receptor Type                 | Value | Target Organ       | SBCAPCD Significant Risk Threshold |
|--------------------------------|-------------------------------|-------|--------------------|------------------------------------|
| Cancer Risk (in 1 million)     | Resident                      | 0.6   | –                  | $\geq 10$                          |
| Cancer Risk (in 1 million)     | Worker                        | 0.2   | –                  | $\geq 10$                          |
| Chronic Non-Cancer Risk        | Resident                      | 0.02  | Respiratory System | $> 1.0$                            |
| Chronic Non-Cancer Risk        | Worker                        | 0.04  | Respiratory System | $> 1.0$                            |
| 8-hour Chronic Non-Cancer Risk | Worker                        | 0.003 | Blood              | $> 1.0$                            |
| Acute Non-Cancer Risk          | Point of Maximum Impact (PMI) | 0.07  | Eye                | $> 1.0$                            |

***d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

Impact: Less Than Significant Impact

Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration is also given to other land uses where people may congregate, such as recreational facilities, work sites and commercial areas, and the buffer zone.

Under GSD's SBCAPCD PTO 08561-R9 01528, GSD monitors the digester gas  $H_2S$  (peak and monthly average), which ensures proper process operation.

There are no expected significant visible, odorous, or other nuisance emissions expected from the proposed Project. Although WRRFs are, in general, sources of odors, the proposed equipment is not expected to produce noticeable odors when functioning properly.

The proposed Project is surrounded by open land and the SBA; therefore, the potential to expose a substantial number of people to objectionable odors is minimized. Although the WRRF has had odor complaints in the past, these events were due to eutrophication of the slough and would not be expected to be caused by the proposed Project. Impacts would be considered less than significant.

***Cumulative Impacts:***

SBCAPCD's Environmental Review Guidelines (2015) states that "Unless otherwise specified in published/adopted thresholds of significance and guidelines, a project's potential contribution to cumulative impacts is assessed utilizing the same significance criteria as those for project specific impacts." There is no indication that a project like this would have different thresholds of significance, and as a result, it can be assumed that this project does not have potential for significant cumulative impacts.

***BMPs:***

The following BMPs are required by the SBCAPCD for projects involving earthmoving activities, regardless of the project size or duration. The measures are based on policies adopted in the 1979 Air Quality Attainment Plan for Santa Barbara County. Proper implementation of these measures is assumed to fully mitigate fugitive dust emissions. It should be noted that applicable SBCAPCD and County Planning Department approved BMPs will be implemented as project design features. This is a standard Condition of Approval and pursuant to CEQA, is not considered mitigation.

**BMP-1:** During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning, as well as after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

**BMP-2:** Minimize the amount of disturbed area and reduce on-site vehicle speeds to 15 mph or less.

**BMP-3:** If import, export, and stockpiling of fill material is involved, soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

**BMP-4:** Gravel pads will be installed at all access points to prevent tracking of mud onto public roads.

**BMP-5:** After clearing, grading, earthmoving, or excavation is completed, treat the disturbed area by watering or revegetating, or by spreading soil binders, until the area is paved or otherwise developed so that dust generation will not occur.

**BMP-6:** The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

***Mitigation Measures:***

No mitigation is required.



#### IV. Biological Resources

| Issues                                                                                                                                                                                                                                                                                                               | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>IV. Biological Resources.</b> Would the project:                                                                                                                                                                                                                                                                  |                                |                                                    |                                     |                                     |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | <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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?                                                               | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?                                                                                         | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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 checked="" type="checkbox"/> | <input 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 type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

| Issues                                                                                                                                                                               | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| 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"/> |

### ***Existing Conditions:***

The Project site is located in Santa Barbara County, California, within the Goleta basin of the coastal plain and the Goleta Slough watershed. It is situated northwest of where San Jose Creek, San Pedro Creek, Atascadero Creek, and Goleta Slough converge. San Pedro Creek runs adjacent to the eastern boundary of the site in an engineered channel, while Atascadero Creek and San Jose Creek are approximately 500 and 700 feet east of the site, respectively. The surrounding areas include estuarine wetlands to the south and west, and freshwater wetlands to the east. The site is located within the coastal zone and is fully developed with paved areas, buildings, concrete structures, and landscaping. The soils are identified as xerorthents and cut and fill areas [U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2021]. The vegetation is primarily ornamental and comprised of non-native species such as Bermuda grass and perennial rye grass. The site's proximity to the Goleta Slough attracts various bird species, some of which use the solids stabilization basins as low-quality aquatic habitat.

### ***Regulatory Setting:***

#### ***Vegetation***

The County's Coastal Land Use Plan (2019) and the Eastern Goleta Valley Community Plan (2017) identify native plant communities, such as coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodlands, as environmentally sensitive habitat (ESH) areas. The California Department of Fish and Wildlife (CDFW) released the Natural Communities List and the California Sensitive Natural Communities (CSNC) list in September 2010 and January 2018, respectively. The CSNC list includes vegetation alliances, associations, and special stands, with state and global rarity ranks for alliances and some associations. Those with ranks 1-3 are considered sensitive. However, CDFW does not provide state ranks for every association or alliance in California (CDFW 2021a).

#### ***Special-Status Plant Species***

Special-status plant species, for the purposes of this analysis, include those that:

- Are designated as rare, threatened, or endangered by the CDFW or the U.S. Fish and Wildlife Service (USFWS) and are protected under the California Endangered Species Act or the federal Endangered Species Act, or meet the CEQA definition for endangered, rare, or threatened;
- Are candidate species being considered or proposed for listing under these acts;

- Are of concern to resource/regulatory agencies or local jurisdictions, including plants on the CDFW Special Plants List (CDFW 2021b) and those with a California Rare Plant Ranking (CRPR) of 1 or 2 in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2021); and/or
- Are plants in the CNPS Inventory, classified as:
  - CRPR 1A: Presumed extinct in California;
  - CRPR 1B: Rare, threatened, or endangered in California and elsewhere; or
  - CRPR 2: Rare, threatened, or endangered in California but more common elsewhere.

Species with CRPR 3 or 4 generally do not qualify for protection, but they may be considered special-status if they meet certain criteria, such as being locally rare or having unique characteristics. The Rare Plants of Santa Barbara County (Wilken 2018) lists native vascular plant taxa with limited distribution in Santa Barbara County, including those known from one to five occurrences, with separate occurrences defined as locations more than 1 kilometer apart.

#### *Special-Status Wildlife Species*

Special-status wildlife species, for the purposes of this analysis, include those that:

- Are designated as rare, threatened, or endangered by the CDFW or the USFWS and are protected under the California Endangered Species Act or the federal Endangered Species Act, or meet the CEQA definition for endangered, rare, or threatened;
- Are candidate species being considered or proposed for listing under these acts;
- Are fully protected by specific sections of the California Fish and Game Code (Sections 3511, 4700, 5050, or 5515); and/or
- Are of concern to resource/regulatory agencies or local jurisdictions, including State Species of Special Concern (SSC) or those on the CDFW Watch List.

Findings related to special-status plants and wildlife were cross-referenced with habitat conditions, elevations, and soil types to assess the potential for their occurrence.

#### *Aquatic Resources*

##### U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredge or fill material into wetlands and other waters of the United States under Section 404 of the Clean Water Act (CWA). Since the Clean Water Rule (CWR) took effect in California in August 2018, aquatic resources are evaluated based on the CWR definition of waters of the United States. This includes traditional navigable waters, interstate waters, territorial seas, impoundments of jurisdictional waters, covered tributaries, and covered adjacent waters, all of which are jurisdictional by rule. Other aquatic features are analyzed case-by-case through a significant nexus analysis. The indicators for identifying potential wetlands and other waters of the United States remain unchanged with the CWR implementation.

Authorization from USACE is required before discharging dredge or fill material into these waters.

#### Regional Water Quality Control Board

The State of California shares jurisdiction with the federal government over Section 401 of the CWA, which concerns Water Quality Certification for jurisdictional wetlands and other waters of the United States. Each Regional Water Quality Control Board (RWQCB) regulates their respective region at the state level, while the USACE regulates at the federal level. For isolated waters and wetlands not under federal jurisdiction, the State exerts independent authority through the Porter-Cologne Act. This Act allows the RWQCB to regulate any actions involving the discharge of waste that could affect the waters of the State, defined as any surface or groundwater within California's boundaries.

The Porter-Cologne Act mandates that each RWQCB create water quality control plans for their regions. The Water Quality Control Plan for the Central Coastal Basin outlines water uses, necessary water quality standards, implementation plans, and monitoring programs (RWQCB 2019).

The State Water Resources Control Board (SWRCB) has established Procedures for Discharges of Dredged or Fill Material to Waters of the State, effective January 2, 2020, which provide uniform standards and definitions for regulating and reviewing discharge applications to wetlands across the State's nine regional boards. Applications submitted before this date are not subject to the new procedures. Activities potentially affecting water quality in state waters require RWQCB authorization before proceeding.

#### California Department of Fish and Wildlife

Under California Fish and Game Code Sections 1600–1616, the CDFW regulates activities that substantially divert or obstruct natural water flow or alter the bed, channel, or bank of any river, stream, or lake. CDFW's jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes with definable beds and banks and existing fish or wildlife resources. This jurisdiction extends to the upland edge of riparian habitat, defined by vegetation supported by hydrologic conditions within a waterway. A watercourse does not need to show an ordinary high water mark to fall under CDFW jurisdiction. CDFW does not cover ocean or shoreline resources. CDFW may also regulate “one-parameter” wetlands, which display positive indicators for one of the three wetland indicators (hydrophytic vegetation, hydric soils, or wetland hydrology) based on a case-specific analysis. Activities affecting jurisdictional lake or streambed resources require CDFW authorization before proceeding.

#### Local Coastal Plan

The County of Santa Barbara (2019) defines wetlands within the coastal zone as areas that may be periodically or permanently covered with shallow water. This includes saltwater marshes, freshwater marshes, brackish water marshes, swamps, mudflats, and fens. This definition, adopted from the California Coastal Act (California PRC Section 30121), broadly identifies areas that may be classified as wetlands and thus subject to regulation.

## ***Methodology:***

### *Literature Review*

Before Langan's field visit for this environmental analysis, the locations of documented special-status plant and wildlife species near the Project area and potential species on-site were identified using several sources. These sources included the California Natural Diversity Database (CDFW 2021c), USFWS Information for Planning and Consultation (IPaC, USFWS 2021), the CNPS (2021), and the updated Rare Plants of Santa Barbara County (Wilken 2018).

### *Vegetation Mapping*

Mapping Nomenclature for on-site vegetation communities follows the most current system, the Manual of California Vegetation, Second Edition (MCV2), and the CSNC. Vegetation communities were mapped according to these sources, with rarity rankings referenced from the Online Edition of the MCV2 (CNPS 2021). If observed vegetation did not match the membership rules of these communities, a new name was assigned based on the dominant species observed, in line with MCV2.

The minimum vegetation mapping units applied were:

- 0.5–1.0 acre for inaccessible areas due to steep terrain;
- Acre for wetland (hydrophytic) vegetation in traditional wetland environments; and
- Acre for sensitive vegetation communities.

### *Plant Species*

Langan's biologists, knowledgeable about special-status plant species and the general flora of coastal Santa Barbara County, conducted reconnaissance-level plant species surveys. During these surveys, any observed special-status species were mapped using the Environmental Systems Research Institute (ESRI) Collector.

Native and naturalized plant species encountered were identified and recorded. Scientific and common names for plant species with a CRPR follow the CNPS Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2021). For species without a CRPR, scientific names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2021), and common names follow the California Natural Community List (CDFW 2021a) or the USDA NRCS Plants Database (USDA 2021). The cumulative list of identified plants is included as Appendix B.

### *Wildlife Species*

During the general biological survey, a reconnaissance-level survey documented observed wildlife species. No focused surveys for special-status wildlife species were conducted. Wildlife species detected by sight, sound, tracks, scat, or other signs were noted. Habitat for special-status species was also recorded. Locations of any observed special-status species were mapped using a Trimble GeoXT handheld GPS unit with sub-meter accuracy.

### *Aquatic Resources*

During the general biological survey, a reconnaissance-level survey for aquatic resources was performed, but no formal aquatic resources delineation (such as a wetland delineation) was conducted.

### ***Site Evaluation:***

Langan Senior Biologist David Murray conducted a general biological survey of the proposed Project area, covering the temporary and permanent impact areas and a 200-foot buffer. He documented wildlife and plant species, noted vegetation communities, and performed vegetation mapping and a quantitative assessment of impacts to these communities within the project site, as well as a conducted a reconnaissance-level aquatic resources survey during a secondary site visit.

### *Vegetation Communities*

Five vegetation communities and land cover types were recorded within the biological survey area, all of which were non-native (Figure 3-1 and Table 3-7). No sensitive vegetation communities were observed. Eucalyptus and myoporum are non-native and do not have a State rank (SNR). The other three communities and land cover types are not listed in the CSNC or the MCV2. The proposed Project would disturb approximately 0.93 acres of non-native plant communities or developed areas (non-ESH areas), including 0.74 acres of temporary disturbance to developed, disturbed, and ornamental plantings, and 0.19 acres of permanent disturbance to developed and ornamental plantings.

**Table 3-7: Summary of Existing Vegetation Communities and Land Cover Types**

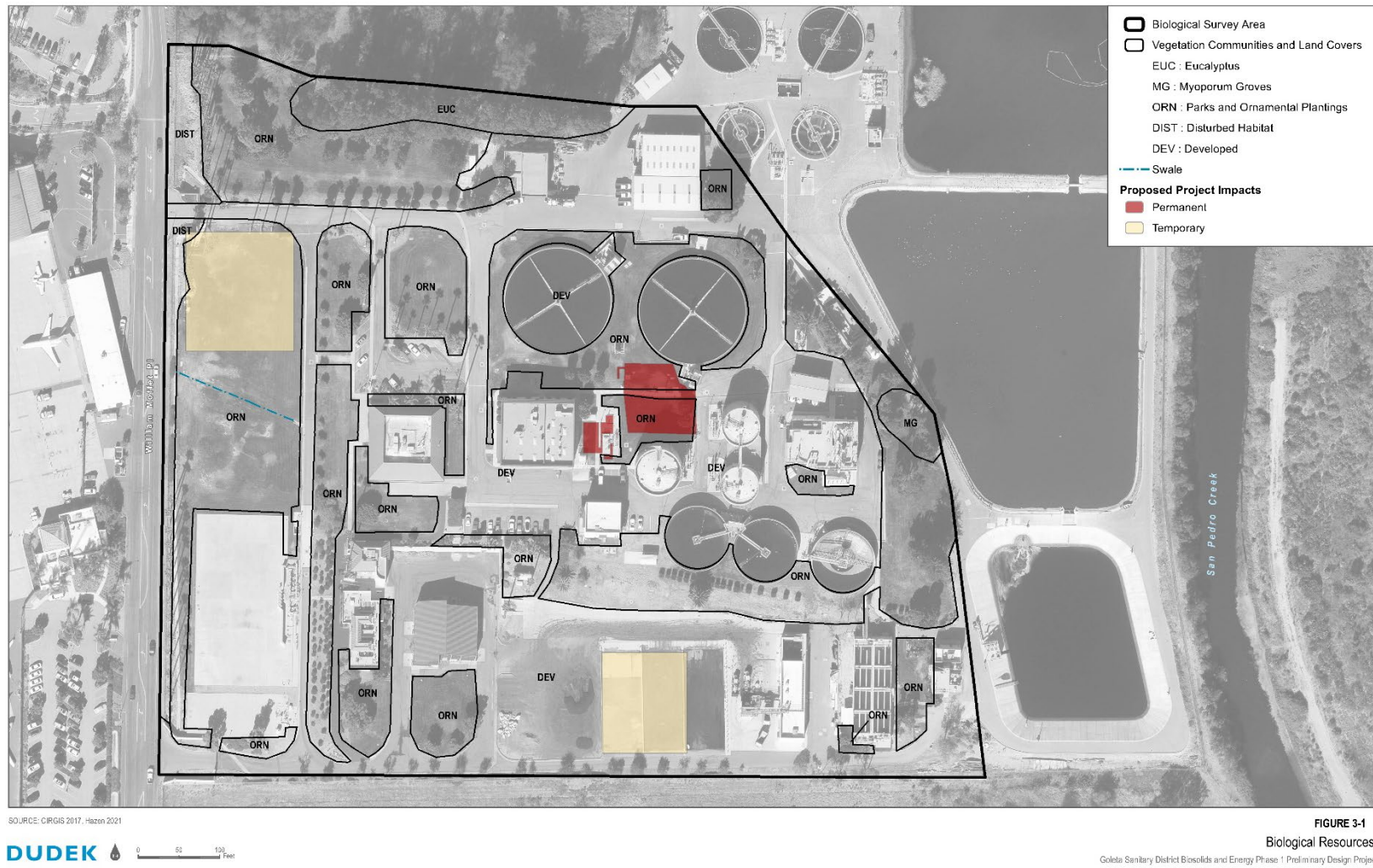
|                                             | General Habitat        | Vegetation Community           | Global, State Rank | Acreage |
|---------------------------------------------|------------------------|--------------------------------|--------------------|---------|
| Non-Native Communities and Land Cover Types | Non-Native Communities | Eucalyptus                     | GNR, SNR           | 0.46    |
|                                             |                        | Myoporum Groves                | GNR, SNR           | 0.1     |
|                                             |                        | Parks and Ornamental Plantings | NA                 | 6.42    |
|                                             | Land Cover Types       | Developed                      | NA                 | 9.96    |
|                                             |                        | Disturbed Habitat              | NA                 | 0.42    |
| Non-Native Communities and Land Cover Types |                        |                                |                    | 17.37   |
| Combined Total                              |                        |                                |                    | 17.37   |

Notes: GNR = globally not rare; NA = not applicable. Not included in CSNC (CDFW 2021a); SNR = state not ranked.



Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District

**Figure 3-1: Biological Resources**



### *Non-Native Communities*

- Eucalyptus (GNR, SNR)

Eucalyptus is listed in the MCV2 and the CSNC, but it does not have a global or State rank because it is composed of non-native species and is not considered sensitive (Sawyer et al. 2009; CDFW 2021a). Eucalyptus groves have eucalyptus trees (*Eucalyptus* spp.) as the dominant species in the tree canopy, which is open to continuous and less than 60 meters (197 feet) in height. The understory shrubs and herbaceous layers are sparse to intermittent. Eucalyptus groves occur throughout California as planted trees, groves, windbreaks, and naturalized areas on uplands, bottomlands, and near stream courses, lakes, or levees. Approximately 0.46 acres of this community were identified in the biological survey area.

- Myoporum Groves (GNR, SNR)

Myoporum groves are listed in the MCV2 and the CSNC, but they do not have a global or State rank because they are composed of non-native species and are not considered sensitive (Sawyer et al. 2009; CDFW 2021a). Myoporum groves consist of myoporum (*Myoporum laetum*) as the dominant species in the tree canopy, which is open to continuous and less than 18 meters (59 feet) in height. Understory shrubs are infrequent or common, and the herbaceous layer ranges from simple to diverse. These groves occur in coastal canyons, washes, slopes, riparian areas, and roadsides throughout central and southern California, often forming dense single-species stands in coastal areas. Approximately 0.10 acre of this community was identified in the biological survey area.

- Parks and Ornamental Plantings

The ornamental vegetation community is not described in the CSNC or the MCV2 because it is not a naturally occurring community in California and is not considered sensitive. This community is dominated by landscaping plants and occurs throughout the property. Approximately 6.42 acres of this community were identified in the biological survey area (Figure 3-1).

### *Land Cover Types*

- Developed

Within the biological survey area, developed areas consist of unvegetated spaces with impervious materials, such as pavement and development. These areas include roads, parking lots, buildings, and concrete structures (Figure 3-1). Approximately 9.96 acres of developed area were identified in the biological survey area.

- Disturbed Habitat

This land cover type is not described in the Natural Communities List or the MCV2, and includes invasive non-native and other disturbance-tolerant species as dominant. Species within this community, including some natives, are tolerant to disturbances such as grading or vegetation clearing. On-site, species found in disturbed areas include poison hemlock (*Conium maculatum*), black mustard (*Brassica nigra*), Hottentot fig (*Carpobrotus edulis*), and horseweed (*Erigeron*

canadensis). Approximately 0.42 acres of this land cover type were identified in the biological survey area.

#### *Plant Species*

A total of 34 plant species were observed and identified, with 5 (15%) considered native and 29 (85%) considered non-native to California. A query of the California Natural Diversity Database (CDFW 2021c) returned 14 special-status plant species documented within the four adjacent quadrangles. Based on Langan's habitat suitability analysis, including elevation and habitats, 10 of these special-status plant species had a low potential to occur within the Project site. These species include:

- Miles' milk-vetch (*Astragalus didymocarpus* var. *milesianus*)
- Coulter's saltbush (*Atriplex coulteri*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- Southern tarplant (*Centromadia parryi* ssp. *australis*)
- Contra Costa goldfields (*Lasthenia conjugens*)
- Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*)
- Carmel Valley malacothrix (*Malacothrix saxatilis* var. *arachnoidea*)
- Nuttall's scrub oak (*Quercus dumosa*)
- Black-flowered figwort (*Scrophularia atrata*)
- Estuary seablite (*Suaeda esteroa*)

No federal, State, or CNPS CRPR plant species were observed.

#### *Trees*

There are no native tree species within the temporary or permanent impact areas.

#### *Wildlife Species*

A total of 31 wildlife species (30 birds and 1 mammal) were observed or detected based on vocal cues or signs (Appendix B). Various special-status wildlife species occur within 5 miles of the Project site, including:

- Monarch butterfly (*Danaus plexippus*; Special Animal) overwintering population
- Tidewater goby (*Eucyclogobius newberryi*; federally endangered, FE)
- Southern steelhead (*Oncorhynchus mykiss irideus*; FE)
- California red-legged frog (*Rana draytonii*; federally threatened, FT)
- Northern California legless lizard (*Anniella pulchra*; SSC)
- Two-striped garter snake (*Thamnophis hammondi*; SSC)
- White-tailed kite (*Elanus leucurus*; State fully protected, FP)
- Light-footed Ridgway's rail (*Rallus obsoletus levipes*; FE, State endangered, SE, FP)

- Western snowy plover (*Charadrius nivosus nivosus*; FT)
- Tricolored blackbird (*Agelaius tricolor*; USFWS Bird of Conservation Concern, SSC, State threatened)
- California least tern (*Sterna antillarum browni*; FE, SE, FP)
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)

Great blue heron (*Ardea herodias*) and great egret (*Ardea alba*) nest nearby Goleta Beach and may occur on-site. These species might hunt gophers on the Project site lawn, near the staging area, but have other foraging opportunities in the area. Many avian species, including the great blue heron and great egret, are protected solely for nesting colonies, and none nest at the GSD site. The settling lagoons are poor foraging habitats for these species. California least tern and western snowy plover will not nest at this location. Belding's savannah sparrow may occasionally forage on the property but has no potential to nest. Light-footed Ridgway's rail no longer occurs in the County, and GSD does not support suitable habitat for it.

Monarch butterflies, protected under the County (County of Santa Barbara 2019), do not have suitable roosting habitats in the eucalyptus trees at the northwestern section of the site, as these trees are not configured properly and are not a known roosting area. These trees are non-native.

Habitat is lacking on-site for all other special-status wildlife species known to occur within 5 miles of the site, except for Cooper's hawk (*Accipiter cooperii*). This bird of prey may nest in the eucalyptus trees along the northwestern boundary of the site, but not within the proposed development areas. No habitat for special-status wildlife species was found, and no special-status wildlife species were detected during the field survey.

#### *Wildlife Movement Corridors*

The site is located in a developed area and does not connect important habitat areas used by large or small wildlife species. In addition, chain-link fencing borders the property and provides impediments to wildlife movement. Medium-sized mammal species, such as the striped skunk (*Mephitis mephitis*) or northern raccoon (*Procyon lotor*), may move locally along the coast.

#### *Aquatic Resources*

No jurisdictional features were detected during the field survey. Standard construction site BMPs apply to protect storm water resources and the environment.

#### ***Significance Criteria:***

The County's Environmental Thresholds and Guidelines Manual was used in this analysis (County of Santa Barbara 2021a). Impacts to habitat types may be considered significant if they substantially (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends.



***Environmental Determination:***

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Impact: Less Than Significant Impact with Mitigation Incorporated

No special-status plant or wildlife species were observed within the biological survey area, so impacts to special-status species from Project disturbances in the temporary and permanent impact areas would be less than significant.

However, 28 species of native birds were detected on-site, including several with the potential to nest there. Nests, eggs, and nestlings of all native bird species are protected by the Migratory Bird Treaty Act and the California Fish and Game Code. Vegetation clearing and grading during the nesting season (January 15th to September 15th) could destroy nests, eggs, and nestlings, potentially violating these regulations. Therefore, impacts to nesting birds from Project disturbances would be potentially significant without mitigation.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Impact: No Impact

No sensitive communities were detected within or immediately adjacent to the impact area; therefore, no impacts to sensitive communities would occur. The Santa Barbara County ESH and Riparian Corridor (RC) overlays identify three mapped ESH features, including San Pedro Creek, within or adjacent to the parcel. These features are more than 200 feet from the impact area, exceeding the 100-foot buffer required per the Coastal Land Use Plan.

- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Impact: No Impact

No wetlands or streams were detected within or immediately adjacent to the impact area; therefore, no impacts to wetlands or streams would occur. The National Wetlands Inventory identifies predominantly freshwater emergent wetlands surrounding the project site. These mapped wetlands are more than 100 feet from the impact area, adhering to the minimum buffer strip requirement per the Coastal Zoning Ordinance.

- 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?***

Impact: Less than Significant

The proposed Project is within a developed area and does not connect important habitat areas for large or small terrestrial wildlife species. The chain-link fence surrounding the

property impedes the movement of larger and medium-sized wildlife. Medium-sized mammals, like the striped skunk and northern raccoon, may occasionally move locally along the coast. Therefore, impacts from interference with wildlife movement would be less than significant.

***e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

Impact: Less than Significant

Two ornamental trees, which are not native or naturally occurring, would be removed within the impact area. Therefore, the proposed Project does not conflict with any local tree preservation policy and impacts to trees would be less than significant.

***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?***

Impact: No Impact

Since no habitat conservation plans apply to the Project area, no impact would occur.

***Cumulative Impacts:***

Cumulative development throughout the Goleta Slough could incrementally contribute to the loss of native plant communities and wildlife habitats, potentially impacting biological resources. However, the proposed development is within a developed parcel and is consistent with the County's General Plan/Local Coastal Plan. With required mitigation, the proposed Project's contribution to cumulative biological resource impacts would not be considerable.

***Mitigation Measures:***

Please refer to Section 3.5.1 for the biological mitigation measures. After implementing Mitigation Measure MM-BIO-1, impacts to nesting birds during the nesting season would be less than significant. After implementing Mitigation Measure MM-BIO-2, impacts to water quality from soil erosion during construction would be less than significant. No mitigation for biological resources is required during project operation.



## V. Cultural Resources

| Issues                                                                                                        | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                |
|---------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|--------------------------|
| <b>V. Cultural Resources.</b> Would the project:                                                              |                                |                                                    |                              |                          |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §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 §15064.5? | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>     | <input type="checkbox"/> |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries?                       | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>     | <input type="checkbox"/> |

### *Existing Conditions:*

The Project site is located at One William Moffett Place, within the City of Goleta, Santa Barbara County. The nearest fresh water source to the Project site in prehistoric, historic, and modern times is Old San Pedro Creek, that empties into the Goleta Slough and is connected to the Pacific Ocean south of the Project site. The Project site's current elevations are less than 30 feet above mean sea level (AMSL).

### *Biological Setting*

The Project site is located in Santa Barbara County, California, in the Goleta basin of the coastal plain. The Project area is located within the Goleta Slough watershed, northwest of the confluence of San Jose Creek, San Pedro Creek, Atascadero Creek, and Goleta Slough. San Pedro Creek is located adjacent to the eastern boundary of the Project site within an engineered channel. Atascadero Creek and San Jose Creek are located approximately 400 and 600 feet east of the Project site, respectively. Adjacent to the parcel to the south and west are estuarine wetlands. To the east is freshwater forested and freshwater emergent wetlands. The proposed Project is located in the coastal zone and is entirely within a developed parcel consisting of paved areas, buildings, concrete structures, and landscaping. Soils in this area are xerorthents (orthent soil with a xeric moisture regime) and cut and fill areas (USDA NRCS 2021). Within the property, vegetation is dominated by ornamental plantings and non-native species such as Bermuda grass (*Cynodon dactylon*) and perennial rye grass (*Festuca perennis*). The proximity to the Goleta Slough attracts a wide variety of bird species, with some species utilizing the solids stabilization basins as low-quality aquatic habitat.

### *Geological Setting*

Based on regional geologic maps and on-site borings, the Project site is underlain by fill and terrace deposits and at depth by the Monterey Formation. Fill material consisting of

very loose to medium dense silty sand was encountered in borings to a depth of 8 feet below ground surface. Terrace deposits consisting of unconsolidated sandy soils, silty claystone, and silty sandstone were encountered to a depth of 63 feet. Monterey Formation bedrock consisting of clayey siltstone was encountered below the terrace deposits to the maximum depth drilled of 67 feet (Ninyo & Moore 2021).

The proposed Project site is located within the west-central Transverse Ranges Geomorphic Province, which extends from Point Conception in the west to the San Bernardino Mountains in the east. The province also includes the San Gabriel, Santa Monica, and Santa Ynez Mountains and the offshore San Miguel, Santa Rosa, and Santa Cruz Islands [California Geological Survey (CGS) 2002; Morton and Miller 2006]. This geomorphic province structure is east-west trending and is oblique to the normal northwest trend of Coastal California. Regionally, the Transverse Ranges extend offshore west to include the continental shelf and offshore islands of Santa Cruz, Santa Rosa, and San Miguel (CGS 2002).

According to surficial geological mapping by Dartnell et al. (2011) at a 1:24,000 scale, the northeastern portion of the proposed Project site is underlain mapped deposits of Holocene (<11,700 years ago) estuarine deposits (map unit Qe); the central portion of the Proposed Project site is underlain by early Pleistocene (approximately 1.8 to 2.58 million years ago) to possibly late Pliocene (approximately 2.58 to 3.6 million years ago) siltstone unit of an unnamed, marine sedimentary unit (map unit QTst); and southernmost portion of the proposed Project site is the upper siliceous unit of the late Miocene (approximately 5.33 to 11.63 million years ago) marine, Monterey Formation (map unit Tmu).

Soils in the Project site are characterized as Alviso soils, undifferentiated, nearly level and Mocho loamy sand, imperfectly drained, nearly level (USDA 1958). A brief description of each series is provided below:

- Alviso soils, undifferentiated, nearly level consists of 0 to 3 percent slopes, with a series profile typically consisting of 0-11 inches of gray, slightly calcareous, hard, moderately basic, massive clay loam that is highly mottled with rust-brown iron stains; 11-60 inches of stratified, highly mottled, light brownish-gray, moderately basic, slightly calcareous, variously textured materials, mottlings become more dull and light gray with depth.
- Mocho loamy sand, imperfectly drained, nearly level consists of 0 to 2 percent slopes, with a series profile typically consisting of 0-14 inches of brown, slightly hard, moderately basic loamy sand of single-grained structure and; 14-72 inches of brown to pale-brown stratified layers of slightly calcareous, moderately basic, slightly hard, massive loamy sands and sand.

The natural vegetation in the Project vicinity prior to European colonization would have consisted of annual grasses, saltgrass, pickleweed, inkweed, and other salt-tolerant plants. The Project site is currently in use as a waste processing plant.

#### *Cultural Setting*

To review a comprehensive cultural setting on the Project site and surrounding area, please refer to Confidential Appendix C.

***Regulatory Setting:***

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” [California PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)]. If a site is either listed or eligible for listing in the California Register of Historical Resources (CRHR), or if it is included in a local register of historic resources or identified as significant in a historical resources survey [meeting the requirements of California PRC Section 5024.1(q)], it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA [California PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)]. The lead agency is not precluded from determining that a resource is a historical resource, even if it does not fall within this presumption [California PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)].

- a) *A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” [CEQA Guidelines Section 15064.5(b)(1); California PRC Section 5020.1(q)]. In turn, the significance of a historical resource is materially impaired when a project:*
- b) *Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or*
- c) *Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or*
- d) *Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.*

When a project significantly affects a unique archeological resource, CEQA imposes special mitigation requirements. Specifically, “[i]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state” [California PRC Section 21083.2(b)(1)-(4)]. Examples of that treatment include the following [California PRC Section 21083.2(b)(1)-(4)]:

- 1) *Planning construction to avoid archeological sites.*
- 2) *Deeding archeological sites into permanent conservation easements.*

- 3) *Capping or covering archeological sites with a layer of soil before building on the sites.*
- 4) *Planning parks, greenspace, or other open space to incorporate archeological sites.*

If these “preservation in place” options are not feasible, mitigation may be accomplished through data recovery [California PRC Section 21083.2(d); CEQA Guidelines Section 15126.4(b)(3)(C)]. PRC Section 21083.2(d) states that “[e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.” These same statutes apply to Tribal Cultural Resources (TCRs) under CEQA, including data recovery as a recommended form of mitigation when avoidance is not feasible.

***Methodology:***

*CHRIS Records Search*

A search of the California Historical Resources Information System (CHRIS) database housed at the Central Coast Information Center (CCIC) was conducted. The search included any previously recorded and submitted cultural resources and investigations within a 0.5-mile radius of the Project area. The CHRIS search also included a review of the National Register of Historic Places (NRHP), the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. Confidential Appendix C provides the records’ search results, maps, and a complete bibliography of all prior cultural resource studies occurring within 0.5 miles of the Project area.

*Historical Aerials Review*

Aerial images from years 1928, 1938, 1941, 1944, 1956, 1971, 1986, 1992, 2001, 2010, and 2018 (UCSB 2020) were carefully reviewed to better understand the history of land use and previous ground disturbing activities.

*Pedestrian Survey*

The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 3 meters apart (approximately 10 feet), where feasible. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, groundstone tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances, such as burrows, dirt paths, and landscape beds, were also visually inspected for exposed subsurface materials. No artifacts were collected during the survey.

All fieldwork was documented using field notes and an Apple Generation 7 iPad equipped with ESRI Collector and Avenza PDF Maps software with close-scale georeferenced field maps of the proposed Project site, along with aerial photographs. Location-specific photographs were taken using the iPad's 12-megapixel resolution camera. Accuracy of the mapping software on the iPad ranged between 4 and 5 meters. All field notes, photographs, and records related to the current study are on file on Dudek's protected server. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

***Methodology:***

***Previously Recorded Cultural Resources***

The CCIC records indicate that one previously recorded cultural resource, CA-SBA-46, has been identified within the Project site and 19 cultural resources have been previously recorded within the 0.5-mile radius of the Project site (see Table 3-8). Of the 19 cultural resources, 12 are prehistoric cultural resources and seven are historic built resources. The 12 prehistoric archaeological sites are briefly described below, followed by a table summarizing all previously recorded cultural resources within 0.5 miles of the Project site.

CA-SBA-43 is a prehistoric site measuring approximately 233 meters (764 feet) north to south and 412 meters (1,351 feet) east to west at an elevation of 80-90 feet AMSL and is located approximately 520 meters (1,700 feet) southeast of the proposed Project area. CA-SBA-43 is documented as consisting of high-density shell midden, high-density and diverse lithic assemblage (including Monterey and Franciscan cherts, crude projectile points, bifaces), mortar and pestle fragments, asphaltum-covered stones, drill, fire affected rock, and potentially a cemetery area. The site was originally recorded formally by David Banks Rogers in his book *Prehistoric Man of Santa Barbara Coast* (1929) as a collection of three "great rancheria sites" located on the flat top of the extensive mesa east of the Goleta Slough. Larry Wilcoxon and Jon Erlandson recorded the site in 1981 after a pedestrian survey and noted that a "cluster of broken mortars at the NE midden edge may mark a cemetery although no human remains were observed."

CA-SBA-44 is a prehistoric site measuring approximately 206 meters (676 feet) north to south and 251 meters (824 feet) east to west at an elevation of 60 feet AMSL and is located approximately 1,140 meters (3,740 feet) southeast of the proposed Project area. CA-SBA-44 is documented as consisting of high-density shell midden, utilized Monterey chert flakes and blade fragment, bowl frag, mano, fossilized whale bone, and isolated human remains. The site was originally formally recorded by David Banks Rogers in his book *Prehistoric Man of Santa Barbara Coast* (1929) as a collection of three "great rancheria sites" located on the flat top of the extensive mesa east of the Goleta Slough. A second recording of the site was completed by Joseph Chartkoff, Kerry Chartkoff, and L. Kona; however, the record appears to have been done based on research, since the site record includes a comment "access to site could not be gained." Jon Erlandson and Larry Wilcoxon recorded the site in 1981 after a pedestrian survey and described the site as "a large and high density shell midden containing human remains." Erlandson and Wilcoxon provided comment in the site record that the site had reportedly been "extensively surface-collected for years."



CA-SBA-45 is a prehistoric site measuring approximately 305 meters (1,000 feet) northwest to southeast and 61 meters (200 feet) northeast to southwest at an elevation of 5 feet AMSL and is located approximately 210 meters (690 feet) southeast of the proposed Project area. CA-SBA-45 is documented as consisting of dense shell and bone midden, chipped stone artifacts, including flakes and projectile points, ground stone, including pestles and “rubbingstone”, tarring pebbles, asphaltum, burnt bone, bone tools, fishhooks, and human remains. The site was originally formally recorded by David Banks Rogers in his book *Prehistoric Man of Santa Barbara Coast* (1929), in which he refers to the site as “Twin Mounds” and describes the site as “two small, closely adjacent mounds” located on the floor of the Goleta Slough and displaying “upon their surface the sooty soil, rich in fragments of shell, which indicates former occupancy.” Based on extensive excavations conducted in 1927 by Olson and Hill of the University of California as well as his own, Rogers noted that the site showed evidence of a long and continuous village settlement. Subsequent recordings of the site were completed by: Joseph Chartkoff, Kerry Chartkoff, and L. Kona in 1967, with concerns of potential destruction due to channel construction; Jon Erlandson and Joseph Heinzen in 1978; Larry Wilcoxon and Jon Erlandson in 1981, based on presence of charcoal lenses and remains of three individuals eroding from the stream bank; and Larry Wilcoxon and Michael Imwalle in 1991, as the result of conditions observed during a pedestrian survey conducted for a water pipeline project. Portions of the site are thought to have been destroyed by the construction of the Ward Memorial Boulevard (SH 217) in 1964, and consistent disturbance of the site has been documented to occur as a result of natural flooding and channeling of Atascadero Creek.

CA-SBA-46 is a large, rich archaeological site with both historic and prehistoric components. It sits on a large mound, itself a remnant of Mescalitan Island, formerly an island in Goleta Lagoon. Prior to the infilling of the Lagoon during the 19th century, and prior to 20th century grading, Mescalitan Island was approximately 0.35 square kilometers (3,767,369 square feet), 21 meters (69 feet) above the slough, and accessible only by boat (Glassow et al. 1986; Gamble 2008). CA-SBA-46 is approximately 457 meters (1,500 feet) north to south and 305 meters (1,000 feet) east to west at an elevation of 25-70 feet AMSL and overlaps the proposed Project area. The site is considered to be the location of the ethnohistoric village of Helo’, which was occupied continuously from the Middle Period through the historic era for approximately 2,000 years (Gamble 2020).

The site was first committed to written record by the Cabrillo expedition of 1542 under the name “Gua”, and then again in 1769 by Friar Crespi of the Portolá expedition, who was taken by the sheer number of inhabitants (which he listed as between 600 and 800 individuals). The Portolá expedition is also responsible for naming the island Mescalitan, which is a derivation of the Aztec Mescaltitán, after an island in Mescaltitán Lagoon in Nayarit, Mexico. The village of Helo’ is mentioned regularly in mission records from Santa Barbara.

Aside from looters and curiosity hunters, the first known excavation was conducted in 1875 by Yarrow under the auspices of the Smithsonian Institution. Though Rogers did not excavate at this site, it features prominently in his compendium, *Prehistoric Man of Santa Barbara Coast* (1929). Olson conducted an extensive excavation in the 1920s of three cemeteries and some middens; the collections from these excavations are housed at the Phoebe Hearst Museum in Berkeley, California. From 1932-33, Richard van Valkenburgh



(of the Los Angeles County Museum of Natural History) excavated there, and from 1939–46, Phil Orr (Santa Barbara Museum of Natural History) did as well. Since 1959, students and faculty from UCSB (including James Deetz and Claude Warren) have conducted small-scale excavations on a somewhat regular basis; sadly, the results of these efforts have mostly escaped publication.

The most comprehensive, scientific studies of the historic portion of the site, affiliated with the village Helo', were conducted in the 1970s and 80s when GSD, which runs the sewage treatment plant on the northern end of the site, wanted to expand their facilities into the historic portion of the site. According to Lynn Gamble (who excavated there in 1986 and 1987 while at UCSB), the historic portion of the site was 80% undisturbed prior to expansion of the sanitation facilities in 1987. As part of the proposed expansion, Scientific Resource Surveys, Inc. (SRS) conducted an assessment in 1978, and in 1985, excavated 37 1-meter by 1-meter units. Over the next couple of years, Gamble conducted a detailed excavation of two historic era house floors in this part of the site, providing a rare glimpse of Chumash domestic life prior to and during the establishment of both the Presidio and the Mission (Gamble 1991, 2008, 2020).

In 1981, Wilcoxon and Erlandson noted a “continuing loss to erosion and illicit collection,” and estimated that 50% of the original island had been removed for fill and that 50-60% of CA-SBA-46 had been destroyed. Much of the site was destroyed to provide fill for development of Ward Boulevard on its east side. Much of the rest of the entire island was graded into the Slough as fill for the airport.

The site has produced a large and diverse range of features and artifacts, such as fire hearths, caches, points, pendants, beads, flakes, charmstones, and net-weights. Chartkoff, Chartkoff, and Kona (1967) described it as “very rich.” Famously, and regrettably, one of the burials from CA-SBA-046 excavated by Orr in 1943 was on display at the Santa Barbara Museum of Natural History, and widely known locally as the “Queen of Mescalitan Island.” The site is also famous for an unusually large “bathtub” mortar decorated with beads, an abalone shell dish full of unburned red maids seeds, and a small model of a canoe carved from steatite. The historic portion of the site also produced an abundance of organic implements (like soap-root brushes, redwood planks, and even a full-size redwood canoe) that do not typically preserve in older sediments.

There are eight documented cemeteries across three localities at the site. Many of the early 20th century observers (e.g., Olson and Orr) noted that human remains, and fragments thereof, were often visible on the surface. Though illicit looting was still a problem in the early 1980s, and may still be today, the effects of it on the stability and integrity of the site have not been evaluated recently.

CA-SBA-47 is a prehistoric site measuring approximately 60 meters (197 feet) in diameter at an elevation of 45 feet AMSL and is located approximately 735 meters (2,410 feet) southwest of the proposed Project area. CA-SBA-47 is described as a “large shell midden occupation site on top of bluff overlooking both Goleta Slough and Pacific Ocean,” near the east gate to the UCSB campus. The site was originally tested and reported by David Banks Rogers in his book *Prehistoric Man of Santa Barbara Coast* (1929). By December of 1948, Francis Riddell noted that the “site is all but totally destroyed.” In 1967, Chartkoff,

Chartkoff, and Kona noted that the site had been “leveled for campus construction.” Since 1948, reports suggest that the cultural deposit is only about 1 foot deep.

CA-SBA-48 is a prehistoric site measuring approximately 100 meters (328 feet) north to south and 350 meters (1,150 feet) west-northwest to east-southeast at an elevation of 40 feet AMSL and is located approximately 845 meters (2,770 feet) southwest of the proposed Project area. CA-SBA-48 is a prehistoric shell midden on the northeastern edge of the UCSB campus, overlooking Goleta Slough. Faunal remains (shell and bone) at this location have been preserved and have recently been subject to absolute dating to reveal “an initial occupation around 820-1210 B.C., corresponding to the late Early Period and, after a hiatus of roughly 2,250 years, a second occupation during the late Late Period, around A.D. 1435–1660” (CA-SBA-48 Site Record). The site was originally reported by David Banks Rogers in his book *Prehistoric Man of Santa Barbara Coast* (1929). Tournapulls conducted a salvage excavation concurrent with heavy grading in 1941. This effort produced manos and metates (milling stones), as well as mortars and pestles, and also suggests there may have been two or more cultural components: one associated with the Canaño as described by Rogers, and the other in a lower component containing mineralized, flexed burials perhaps associated with the earlier Oak grove or hunting cultures. Tournapulls further notes that the burials could not be properly studied or preserved as they were typically destroyed by the “Bull Dosers.” Fenenga followed up with a small excavation in 1948, noting a hammerstone, a chopper, a small steatite bead, and flaked stone on Monterey and Franciscan cherts. Fenenga further reported that there were “numerous human bones on the surface” in 1948 and noted that CA-SBA-048 was “probably the best remaining site on the campus.” Chartkoff, Chartkoff, and Kona re-recorded the site in 1967, and Glassow conducted a condition assessment in 1973. Larry Wilcoxon and Jon Erlandson evaluated the site in 1981 after a pedestrian survey and noted that “large portions [of it had been] damaged or destroyed,” presumably during grading. Applied Earthworks conducted the most comprehensive subsurface evaluation as part of the California Nanosystem Institute project (McKim et al. 2007); this study established a faunal record for the site, along with an outline of the timing of the different occupations.

CA-SBA-1158 is a prehistoric site measuring approximately 4,283 square meters (46,101 square feet) at an elevation of 5-10 feet AMSL and is located approximately 570 meters (1,870 feet) south of the proposed Project area. CA-SBA-1158 is documented as consisting of a medium density shell, bone, and lithic scatter and was originally formally recorded in 1980 by Jon Erlandson, who described the site as a “a shell, bone and lithic scatter of unknown dimensions.” Erlandson also provided comments regarding the site corresponding to “Pantoja’s 1782 map location of Chumash house clusters on the Goleta sandspit.” Subsurface testing was conducted in 1986 by Michael Macko to better understand the nature and horizontal and vertical extent of the site, from which Macko made the determination that the cultural material had been redeposited and did not exist within intact, native soils. The site record was not updated by Macko, but a note was added to the site record referencing Macko’s 1986 report (SR-00171).

**Table 3-8: Previously Recorded Cultural Resources within 0.5 Miles of Project Area**

| Designation                 | Resource Description                                                                                                                                                      | Recorded By                                                                                                                                           | NRHP Eligibility | Intersects Project Site? | Distance/ Direction from Project Site |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------|---------------------------------------|
| CA-SBA-000043 (P-42-000043) | Prehistoric midden site consisting of marine shell midden and high-density lithic scatter.                                                                                | 1929 (David B. Rogers); 1981 (L. Wilcoxon/ J. Erlandson)                                                                                              | Unknown          | No                       | 520 meters (1,700 feet) southeast     |
| CA-SBA-000044 (P-42-000044) | Prehistoric site consisting of marine shell midden, low-density lithic scatter, and two isolate human remain fragments.                                                   | 1929 (David B. Rogers); 1967 (J. Chartkoff, K. Chartkoff, L. Kona); 1981 (Erlandson/ Wilcoxon)                                                        | Unknown          | No                       | 1,140 meters (3,740 feet) southeast   |
| CA-SBA-000045 (P-42-000045) | Prehistoric midden site consisting of marine shell midden, low-density lithic scatter, and faunal bones.                                                                  | 1927 (David B. Rogers); 1967 (J & K Chartkoff/L. Kona); 1978 (Erlandson, Heinzen); 1981 (L. Wincoxon, J. Erlandson); 1991 (L. Wilcoxon, Mike Imwalle) | Unknown          | No                       | 210 meters (690 feet) southeast       |
| CA-SBA-000046 (P-42-000046) | Prehistoric site location of Mescalitan Island, consisting of marine shell midden, high-density lithic scatter, and various burials, including the "Queen of Mescalitan." | 1928 (David B. Rogers); 1962 (Klug); 1967 (J & K Chartkoff, L. Kona); 1981 (Erlandson/ Wilcoxon)                                                      | Unknown          | Yes                      | within                                |

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| Designation                 | Resource Description                                                                                                               | Recorded By                                                                                                                                       | NRHP Eligibility | Intersects Project Site? | Distance/ Direction from Project Site |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------|---------------------------------------|
| CA-SBA-000047 (P-42-000047) | Prehistoric site consisting of marine shell midden.                                                                                | 1929 (David B. Rogers); 1948 (FA Riddell); 1967 (L. Kona/J. & K. Chartkoff)                                                                       | Unknown          | No                       | 735 meters (2,410 feet) southwest     |
| CA_SBA-000048 (P-42-000048) | Prehistoric site including marine shell midden, high-density lithic scatter, faunal bones, and various fragments of human remains. | 1929 (David B. Rogers); 1948 (F. Fenenga); 1967 (J & K Chartkoff/ L. Kona); 1981 (Erlandson/ Wilcoxon); 2007 (Lebow, C. Applied EarthWorks, Inc.) | Unknown          | No                       | 845 meters (2,770 feet) southwest     |
| CA-SBA-001158 (P-42-001158) | Prehistoric site consisting of marine shell midden, low-density lithic scatter, and small faunal bone fragments.                   | 1980 (Jon Erlandson)                                                                                                                              | Unknown          | No                       | 570 meters (1,870 feet) south         |
| CA-SBA-001695 (P-42-001695) | Prehistoric site consisting of marine shell midden.                                                                                | 1981 (Erlandson/ Wilcoxon)                                                                                                                        | Unknown          | No                       | 747 meters (2,450 feet) south         |
| CA-SBA-001696 (P-42-001696) | Prehistoric site including marine shell midden, low-density lithic scatter, and faunal bone.                                       | 1981 (Erlandson/ Wilcoxon)                                                                                                                        | Unknown          | No                       | 1,085 meters (3,560 feet) southeast   |
| CA-SBA-002579 (P-42-002579) | Prehistoric site consisting of low-density lithic scatter and marine shell midden with small amounts of faunal bone.               | 1993 (Roy Dugger, SAIC)                                                                                                                           | Unknown          | No                       | 570 meters (1,870 feet) north         |

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| Designation               | Resource Description                                                                     | Recorded By                                                                                                           | NRHP Eligibility | Intersects Project Site? | Distance/ Direction from Project Site |
|---------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------|--------------------------|---------------------------------------|
| CA-SBA-4010 (P-42-004010) | Prehistoric site including marine shell midden and a few lithic isolates.                | 2011 (Phil Fulton, Terri Fulton, LSA Associates, Inc.)                                                                | Unknown          | No                       | 378 meters (1,240 feet) southeast     |
| (P-42-038785)             | Prehistoric isolate quartzite core.                                                      | 2006 (M. Armstrong, URS)                                                                                              | Unknown          | No                       | 908 meters (2,980 feet) northeast     |
| (P-42-041030)             | Historic building served as an airplane hangar during World War II, dating to 1942-1946. | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates); 2014 (Morlet, A. Applied EarthWorks, Inc.) | Ineligible       | No                       | 152 meters (500 feet) west            |
| (P-42-041041)             | Historic building serving as storage during World War II, dating to 1944.                | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates)                                             | Ineligible       | No                       | 152 meters (500 feet) west            |
| (P-42-041042)             | Historic building serving as storage during World War II, dating to 1944.                | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates)                                             | Ineligible       | No                       | 152 meters (500 feet) west            |
| (P-42-041043)             | Historic building serving as a firehouse and armory during World War II, dating to 1944. | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates)                                             | Ineligible       | No                       | 183 meters (600 feet) northwest       |
| (P-42-041044)             | Historic airplane hangar dated to approximately 1960.                                    | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates)                                             | Ineligible       | No                       | 137 meters (450 feet) west            |
| (P-42-041057)             | Historic building dated to approximately 1970.                                           | 1994 (Mitch Stone and Judith Triem)                                                                                   | Ineligible       | No                       | 670 meters (2,200 feet) north         |

| Designation   | Resource Description                         | Recorded By                                                               | NRHP Eligibility | Intersects Project Site? | Distance/ Direction from Project Site |
|---------------|----------------------------------------------|---------------------------------------------------------------------------|------------------|--------------------------|---------------------------------------|
| (P-42-041093) | Historic motel dating to approximately 1965. | 1994 (Mitch Stone and Judith Triem, San Buenaventura Research Associates) | Ineligible       | No                       | 580 meters (1,900 feet) south         |

#### *Previous Cultural Resources Studies*

Results of the CHRIS search indicate that 94 previously conducted studies were identified within the 0.5-mile records search radius between 1979 and 2017. Of these studies, 13 overlap the current Project area: SR-00153, SR-00183, SR-00194, SR-00218, SR-00779, SR-00929, SR-01068, SR-01070, SR-01435, SR-01600, SR-01601, SR-04892 and SR-04911 (see Table 3-9). The previous cultural resource studies addressing the proposed Project site area that were available and considered relevant are briefly explained below, and all previous cultural resource studies within the 0.5-mile radius are summarized in Table 3-90.

SR-00183 Final Supplemental Environmental Impact Report (SEIR) for the Goleta Sanitary District Wastewater Treatment Plant Upgrade (Planning Land Use Services 1986) documents a supplemental effort for an EIR overlapping all of the proposed Project site. The purpose of the SEIR was to determine any potentially significant effects upgrades to the wastewater treatment facility would have on the environment, in accordance with CEQA. The archaeological component of the SEIR included a review of previous studies covering the project area. The SEIR found that the project would have significant impacts to cultural resource CA-SBA-46. Recommended Mitigation Measures included avoiding impacts whenever possible, controlled use of a backhoe, and monitoring.

SR-00929 Archaeological investigations at Helo' on Mescalitan Island (Gamble 1990) documents excavations that took place throughout the current proposed Project site. The purpose of the investigations was to mitigate the impacts of the proposed expansion of the wastewater facility on prehistoric site CA-SBA-46. The investigation included the excavation of 35 units. The excavation revealed high cultural deposits, including two house floors, suggesting CA-SBA-46 was a village site. One of the more significant results of the archaeological investigation was the conclusion that site CA-SBA-46 is the Chumash village Helo'.

SR-01068 Cultural Resources Investigation of Proposed Modifications to Wastewater Facility and Associated Pipeline for Distribution of Reclaimed Water (Cultural Resources Management Services 1990) documents the results of a Phase I archaeological investigation overlapping a portion of the current proposed Project site. The investigation included a records search, a literature review, and an intensive field survey. The purpose of the investigation was to determine if proposed modifications to the wastewater facility and associated distribution pipeline would impact cultural resources. The records search showed that GSD's wastewater facility resided over previously recorded archaeological



site CA-SBA-46. The field survey within the wastewater facility identified several prehistoric chert flakes. The investigation concluded the proposed Project area, which overlaps the current proposed Project site, had been highly disturbed, and subsurface test excavations were recommended to determine if a significant cultural deposit remained within the proposed Project site. Archaeological and Native American monitoring was also recommended for all ground disturbing activities.

SR-01435 A Limited Subsurface Testing Program at the site of a Proposed Vehicle Garage at the Goleta Sanitation District's Wastewater Treatment Plant, Goleta, California (Wilcoxon 1991) documents subsurface testing that took place within the northern edge of the proposed Project site. The subsurface testing included eight backhoe trenches excavated to depths between 1.58 and 3.05 meters (5.18 and 10 feet). The purpose of the testing was to determine the extent of prerecorded archaeological site CA-SBA-46 within the proposed Project site. The subsurface testing resulted in an intact cultural deposit, associated with CA-SBA-46, within every trench, predominantly within native topsoil that had been previously capped with fill. Wilcoxon recommended that, prior to construction activities, there be a recovery of a 3% sample of intact cultural deposits, and all ground disturbing construction activities be monitored by an archaeologist and Native American representative.

SR-01600 Limited Subsurface Testing at Goleta Sanitations District's Wastewater Treatment Facility (Wilcoxon 1991) documents subsurface testing that took place within the current proposed Project site. The subsurface testing included six backhoe trenches excavated to depths between 1.3 and 2.9 meters (4.27 and 9.51 feet). The purpose of the testing was to determine the extent of prerecorded archaeological site CA-SBA-46 within the then proposed Project site. The results of the subsurface testing showed that the native topsoil where cultural remains were located had been significantly cut and disturbed by past grading. It was determined unlikely that undisturbed high-density deposits existed within the proposed areas of construction. Archaeological monitoring during construction activities was recommended as a form of mitigation.

SR-01601 Surface Reconnaissance Goleta Sanitation District Wastewater Treatment Plant (Wilcoxon 1991) documents the results of a pedestrian survey at the GSD wastewater facility, overlapping a portion of the current proposed Project site. The purpose of the survey was to determine if proposed paving and grading would impact in situ cultural deposits associated with prerecorded archaeological site CA-SBA-46. During the field survey, shell midden deposits were observed at varying densities within the proposed Project area. It was recommended to avoid the area east of the existing secondary sedimentation tanks and southwest of a 10-foot contour. The report states that any disturbance within this area would require further mitigation in accordance with the County of Santa Barbara guidelines and CEQA.

SR-04892 Extended Phase 1 Archaeological Investigation, Goleta Sanitary District Wastewater Treatment Plant Upgrading Project (Stone and Victorino 2009) documents the results of an extended Phase I archaeological investigation that overlapped center portions of the proposed Project site. The investigation included a records search, a literature review, and subsurface testing consisting of 34 geoprobes. The purpose of the investigation was to determine the integrity of any subsurface cultural materials, and to determine the

horizontal and vertical extent of cultural materials associated with prerecorded archaeological site CA-SBA-46, within the proposed improvement areas. The geoprobes resulted in identifying varying densities of cultural material. The area west of the existing biofilter contained little to no cultural materials. The area east and north of the existing biofilter contained higher densities of cultural material, extending up to 6 feet deep. The study resulted in recommendations that proposed disturbances within areas of high densities of cultural material be redesigned or relocated to areas with little to no cultural material present. A pre-construction workshop conducted by an archaeologist and local Native American representative and archaeological and Native American monitoring during all ground disturbing activities were also recommended.

SR-04911 Letter Report for Archaeological Monitoring, Goleta Sanitary District (Victorino and Stone 2009) documents the results of archaeological monitoring within the center of the proposed Project site. The monitoring was required to fulfill conditions of approval for the proposed GSD Wastewater Treatment Plant Upgrading Project. Fragmented and weathered marine shell was observed in low densities during the archaeological monitoring. The cultural materials were observed in areas where previous disturbance had taken place and were not considered potentially significant. A map of previous disturbances and investigations of GSD can be found in Figure 3-2.

**Table 3-9: Previously Conducted Cultural Resources Studies Within 0.5 Miles of the Project Area**

| Year          | Author                      | CCIC ID  | Report Title                                                                                                          | Addresses Project Site |
|---------------|-----------------------------|----------|-----------------------------------------------------------------------------------------------------------------------|------------------------|
| Not available | Desautels, R. and Leach, M. | SR-00065 | No title listed within CHRIS.                                                                                         | No                     |
| 1979          | Craig, S.                   | SR-00121 | Cultural Resource Survey of the Proposed Minicar Corp. Development in Goleta, California (28 DP 35 log #2652).        | No                     |
| 1982          | Craig, S.                   | SR-00130 | Results of a cultural resource assessment of two potential City of Santa Barbara sludge composting facilities.        | No                     |
| 1983          | Craig, S.                   | SR-00132 | Cultural Resources Element Santa Barbara Municipal Airport Expansion.                                                 | No                     |
| 1985          | Erlandson, J.               | SR-00147 | RE: Proposed Developments, Goleta Sanitary District, Santa Barbara County, CA.                                        | Yes                    |
| 1948          | Gabel, N. and Fenenga, F.   | SR-00150 | An Appraisal of the Archaeological Resources of the Goleta Campus of Santa Barbara College, University of California. | No                     |

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| Year | Author                                     | CCIC ID  | Report Title                                                                                                                          | Addresses Project Site |
|------|--------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1975 | Greenwood, R.                              | SR-00153 | Archaeological Investigation GSD Wastewater Treatment Plant Evaluation.                                                               | Yes                    |
| 1975 | Haller, J.                                 | SR-00154 | Goleta Slough Management Plan.                                                                                                        | No                     |
| 1986 | Macko, M.                                  | SR-00171 | Results of Archaeological Testing at CA-SBa-1158, Goleta Beach Park.                                                                  | No                     |
| 1985 | Moore, J.                                  | SR-00178 | Archaeological Monitoring and Preliminary Impacts Assessment, SBa-1158 Goleta Beach Park.                                             | No                     |
| 1985 | Planning Division PS/CM                    | SR-00182 | City of Santa Barbara Memorandum, Airport/Goleta Slough Local Coastal Plan, Phase III Implementation.                                 | No                     |
| 1986 | Planning Land Use Services (PLUS)          | SR-00183 | Final supplemental environmental impact report for the GSD Wastewater Treatment Plant Upgrade.                                        | Yes                    |
| 1985 | SRS                                        | SR-00192 | SBA-46 Test Program, GSD / Brown & Caldwell, Vol. I, II, & III.                                                                       | Yes                    |
| 1979 | SRS                                        | SR-00193 | Archaeological Report Vol. II on Test Excavations on Site SBa-46 (Mescalitan Island) Located in Goleta, California-Data Presentation. | Yes                    |
| 1985 | SRS                                        | SR-00194 | Research Design for Test Excavations on Mescalitan Island, Site III, SBA-46.                                                          | Yes                    |
| 1983 | Stone, D.                                  | SR-00203 | Phase I Archaeological Assessment for Fess Parker Fill Stockpiling Site.                                                              | No                     |
| 1969 | UCSB, Office of Architects and Engineers   | SR-00213 | Ward Memorial Boulevard and the Goleta Slough.                                                                                        | No                     |
| 1975 | UCSB                                       | SR-00214 | UCSB Long Range Development Plan EIR: Archaeology Section.                                                                            | No                     |
| 1985 | Whitney-Desautels, N.                      | SR-00218 | Letter report: Response to peer review comments regarding test program conducted by SRS at SBa-46.                                    | Yes                    |
| 1982 | Wilcoxon, L., Erlandson, J., and Stone, D. | SR-00246 | Final Report Intensive Cultural Resources Survey for the Goleta Flood Protection Program Santa Barbara County, California.            | No                     |

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| Year | Author                                   | CCIC ID  | Report Title                                                                                                                                                                            | Addresses Project Site |
|------|------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1985 | Erlandson, J.                            | SR-00779 | Letter Report: Review of SRS Research Proposal for the Archaeological Evaluation of Proposed GSD Developments on Mescalitan Island (SBA-46, Site III).                                  | Yes                    |
| 1990 | Gamble, L.H.                             | SR-00929 | Archaeological investigations at Helo' on Mescalitan Island.                                                                                                                            | Yes                    |
| 1991 | Snethkamp, P.                            | SR-01063 | Assessment for need for phase 1 prehistoric and historic archaeological survey of the parcel associated with the T-Hangars project at Santa Barbara Municipal Airport.                  | No                     |
| 1990 | Gibson, R. and Parsons, J.               | SR-01065 | Results of subsurface testing for the Pine Avenue storage yards project: soils geomorphology and archaeology.                                                                           | No                     |
| 1990 | Cultural Resources Management Services   | SR-01068 | Cultural resources investigation of proposed modifications to wastewater facility and associated pipeline for distribution of reclaimed water.                                          | Yes                    |
| 1991 | Wilcoxon, L.                             | SR-01070 | Results of a limited archaeological subsurface testing program at SBA-48 in conjunction with the GSD 's proposed reclaimed water pipeline network on the UCSB campus.                   | No                     |
| 1991 | Wilcoxon, L.                             | SR-01181 | A Supplemental Phase I Cultural Resource Evaluation for Selected Portions of Goleta Water District's Proposed Reclaimed Water Pipeline Network, Goleta, California.                     | No                     |
| 1991 | Wilcoxon, L., Haley, B., and Imwalle, M. | SR-01186 | Results of a Phase II Archaeological Subsurface Testing Program at SBA-48 in Conjunction with the Goleta Water District's Proposed Reclaimed Water Pipeline Network on the UCSB Campus. | No                     |
| 1991 | Wilcoxon, L.                             | SR-01187 | Letter Report: Proposed Airport Terminal Expansion, Santa Barbara Airport, Santa Barbara, California.                                                                                   | No                     |

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| Year | Author                       | CCIC ID  | Report Title                                                                                                                                                                                              | Addresses Project Site |
|------|------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1991 | Wilcoxon, L.                 | SR-01188 | Results of a Subsurface Backhoe Testing Program in Conjunction with Proposed UCSB Marine Science Trailer Utilities Near Archaeological Site SBA-48, on the University of California Campus.               | No                     |
| 1992 | Wilcoxon, L. and Imwalle, M. | SR-01231 | A Phase I Cultural Resource Evaluation for the Proposed South Patterson Area Grower's Reclaimed Water Pipeline Network Goleta, California.                                                                | No                     |
| 1991 | Wilcoxon, L.                 | SR-01435 | A Limited Subsurface Testing Program at the site of a Proposed Vehicle Garage at the GSD's Wastewater Treatment Plant, Goleta, California.                                                                | Yes                    |
| 1993 | Wilcoxon, L. and Haley, B.   | SR-01450 | Final Report, Results of Archaeological Excavations at SBA-46 Undertaken in Conjunction with the Proposed Construction of a Vehicle Garage at the Goleta District's Sanitation Plant, Goleta, California. | No                     |
| 1992 | Stone, D.                    | SR-01467 | Re: Supplemental Phase I Resource Survey Proposed Apron Extension, Hangar Extension, and Access Road Lucas Aviation, Inc. Santa Barbara Airport.                                                          | No                     |
| 1991 | Snethkamp, P.                | SR-01473 | Re: Phase I Cultural Resource Survey Proposed Apron Extension and Access Road Lucas Aviation Santa Barbara Airport, Santa Barbara, California.                                                            | No                     |
| 1992 | Snethkamp, P.                | SR-01474 | Re: Assessment of Potential Effects to Archaeological Resources Proposed Airport Improvements Santa Barbara Municipal Airport AIP Project No. 3-06-0235-06; 3-06-0235-07.                                 | No                     |
| 1993 | Woodman, C. and Dugger, R.   | SR-01495 | Results of Archaeological Monitoring and Limited Testing, Santa Barbara Municipal Airport Property, City of Santa Barbara, California SAIC Job No. 01-0236-01-1324-000.                                   | No                     |

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| Year | Author                      | CCIC ID  | Report Title                                                                                                                                                                                                                                                 | Addresses Project Site |
|------|-----------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1979 | Craig, S.                   | SR-01528 | Re: Heyer Schulte Corporation Parking Lot and Building Extension Goleta, California.                                                                                                                                                                         | No                     |
| 1992 | Snethkamp, P. and Cagle, C. | SR-01584 | Phase 1 Archaeological Assessment Santa Barbara Municipal Airport Property, City of Santa Barbara, CA.                                                                                                                                                       | No                     |
| 1991 | Wilcoxon, L.                | SR-01600 | Limited Subsurface Testing at Goleta Sanitations District's Waste Water Treatment Facility.                                                                                                                                                                  | Yes                    |
| 1991 | Wilcoxon, L.                | SR-01601 | Surface Reconnaissance Goleta Sanitation District Waste Water Treatment Plant.                                                                                                                                                                               | Yes                    |
| 1993 | Wilcoxon, L.                | SR-01642 | A Phase I Archaeological Resource Evaluation for Santa Barbara County's Proposed Channel Modification and Maintenance Project on Lower Atascadero Creek, Goleta, California.                                                                                 | No                     |
| 1994 | Snethkamp, P.               | SR-01671 | Letter Re: Revisions to the Airport's Cultural Resources Sensitivity Map, Phase 1 Archaeological Assessment, Santa Barbara Municipal Airport, City of Santa Barbara, California.<br>Mescalitan Island Archaeological Sensitivity Area, South End of Airport. | No                     |
| 1993 | Snethkamp, P.               | SR-01674 | Cultural Resources Assessment Runway 7-25 Safety Area Improvements Santa Barbara Municipal Airport, Santa Barbara, CA.                                                                                                                                       | No                     |
| 1994 | Snethkamp, P.               | SR-01675 | Cultural Resources Evaluation Hangar 6 Drainage Improvements Santa Barbara Municipal Airport, Santa Barbara, Ca.                                                                                                                                             | No                     |
| 1994 | Snethkamp, P.               | SR-01679 | Re: Proposed Improvements within Mescalitan Island Sensitivity Area.                                                                                                                                                                                         | No                     |
| 1993 | Snethkamp, P.               | SR-01702 | Cultural Resource Evaluation, Taxiway B Reconstruction, Signage Installation, and Runway 151/33R Repavement, Santa Barbara Municipal Airport, Santa Barbara, CA.                                                                                             | No                     |



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| Year | Author                                                             | CCIC ID  | Report Title                                                                                                                                                 | Addresses Project Site |
|------|--------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1967 | Chartkoff, J.                                                      | SR-01746 | Archaeological Resources on Fourteen Stream Channels in coastal Santa Barbara County, California.                                                            | No                     |
| 1978 | Desautels, R.                                                      | SR-01749 | Archaeological Surface and Inventory Report on the Goleta County Water District – Wastewater Reclamation Project Located in Santa Barbara County, Ca.        | No                     |
| 1996 | Santoro, Loren J.                                                  | SR-01948 | Archaeological Monitoring for the Goleta Slough Dredging Project – Phase II, Santa Barbara County, CA.                                                       | No                     |
| 1997 | Anderson, Karin                                                    | SR-02124 | Phase 1 Archaeological Survey for Proposed Installation of Cable San Pedro Creek Bike Trail and Goleta Beach County Park, Santa Barbara, County, California. | No                     |
| 1988 | King, Chester, Horne, S., Gamble, L., Wilcoxon, L., and Gibson, R. | SR-02127 | Environmental Impact Report/Statement: Shell Hercules Project, Santa Barbara County, Technical Appendix G Cultural Resources.                                | No                     |
| 1975 | Hannan, Joseph A.                                                  | SR-02142 | Management and Preservation Plan for the Goleta Slough.                                                                                                      | No                     |
| 1996 | SAIC                                                               | SR-02187 | Phase 1 Archaeological Survey for Elements of the Goleta Old Town Revitalization Plan.                                                                       | No                     |
| 1997 | Anderson, Karin                                                    | SR-02205 | Phase 1 Archaeological Survey for Proposed Installation of Cable San Pedro Creek Bike Trail and Goleta Beach County Park, Santa Barbara County, California.  | No                     |
| 2000 | Anderson, Karin                                                    | SR-02523 | Final Archaeological Monitoring Results for Santa Barbara Airport Safety Area Grading Project.                                                               | No                     |
| 1996 | Anderson, Karin                                                    | SR-02524 | Cultural Resources Survey for Santa Barbara Municipal Airport Safety Grading and Helicopter Parking Area Projects.                                           | No                     |

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| Year | Author                                                             | CCIC ID  | Report Title                                                                                                                                                                                                | Addresses Project Site |
|------|--------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 2000 | Applied Earth Works                                                | SR-02541 | Historic Property Survey Report for Goleta Old Town Transportation Improvements, Santa Barbara County, CA.                                                                                                  | No                     |
| 2000 | Palmer, K and Lebow, C.                                            | SR-02652 | Phase 1 Cultural Resources Survey for University of California, Santa Barbara Campus Sewer Renewal Project, Goleta, CA.                                                                                     | No                     |
| 2001 | Santa Barbara County Flood Control and Water Conservation District | SR-02667 | Draft Program Environmental Impact Report: Updated Routine Maintenance Program.                                                                                                                             | No                     |
| 2001 | Dibble, D.S.                                                       | SR-02690 | Records and Literature Search and Archaeological Survey for Proposed Old San Jose Creek Restoration Project.                                                                                                | No                     |
| 2002 | Getchell, Barbie and Atwood, John                                  | SR-02802 | Cultural Resources Inventory for the Proposed Federal Aviation Administration Airport Surveillance Radar, Model 11 (ASR-11) to serve the Santa Barbara Municipal Airport, Santa Barbara County, California. | No                     |
| 2001 | Hodges, C., and Owen, V.                                           | SR-02893 | Extended Phase 1 Cultural Resources Investigations near CA-SBA-48, University of California, Santa Barbara, Santa Barbara County, CA.                                                                       | No                     |
| 2003 | Gerber, Joyce                                                      | SR-03030 | Extended Phase 1 Cultural Resources Survey for the Sempra Energy/SGG La Goleta Storage Field Well Site Project.                                                                                             | No                     |
| 2003 | Stone, D. and Victorino, K.                                        | SR-03039 | Phase 1 Archaeological Investigation Report Fairview Corporate Center, Goleta, California.                                                                                                                  | No                     |
| 2004 | Gerber, Joyce L.                                                   | SR-03234 | Phase 1 Archaeological Survey Santa Barbara Airport Security Upgrade Project Santa Barbara, California.                                                                                                     | No                     |
| 2003 | Bass, Byron                                                        | SR-03276 | Technical Report, Cultural Resources: Verhelle Bridge Replacement Project, Santa Barbara, CA.                                                                                                               | No                     |

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| Year | Author                                                     | CCIC ID  | Report Title                                                                                                                                                  | Addresses Project Site |
|------|------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 2003 | Bass, Byron                                                | SR-03285 | Technical Report, Cultural Resources Testing Program: Verhelle Bridge Replacement Project, Santa Barbara, CA.                                                 | No                     |
| 1979 | The Regents of the University of California                | SR-03502 | UCSB LRDP EIR.                                                                                                                                                | No                     |
| 1990 | EIP Associates                                             | SR-03503 | Final EIR Vol. 1-Revised Draft (June 1990).                                                                                                                   | No                     |
| 2000 | Ryan, C.                                                   | SR-03566 | Historic Property Survey Report for Goleta Old Town Transportation Improvements, Santa Barbara County, California.                                            | No                     |
| 2006 | Ross-Hauer, JoEllen, Maxon, Patrick, and Underbrink, Susan | SR-03631 | Results of Archaeological testing at Site CA-SBA-1695, Goleta Beach County Park, Santa Barbara County, California.                                            | No                     |
| 2007 | Haslouer, Leeann G.                                        | SR-04284 | Archaeological and Native American Monitoring of the Power Pole Replacement Excavations at the Sempra/SCG La Goleta Storage Field, Goleta, California.        | No                     |
| 2008 | Haslouer, Leeann G. and Lebow, Clayton G.                  | SR-04382 | Supplemental Extended Phase 1 Survey Sempra Energy/Southern California Gas La Goleta New Storage Field and Pipeline Goleta, Santa Barbara County, California. | No                     |
| 2008 | Haslouer, Leeann G. and Lebow, Clayton G.                  | SR-04395 | Phase 1 Archaeological Resources Report New Waterline East of Landing Field Santa Barbara Airport, Santa Barbara Airport, Santa Barbara, CA.                  | No                     |
| 2008 | Haslouer, Leeann G.                                        | SR-04397 | Archaeological Monitoring for the Airfield Safety Projects, Santa Barbara, California.                                                                        | No                     |

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| Year | Author                                                                           | CCIC ID  | Report Title                                                                                                                                                           | Addresses Project Site |
|------|----------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 2008 | McKim, Rebecca L., Lebow, Clayton G., Baloian, Mary Clark, and Harro, Douglas R. | SR-04411 | Archaeological Investigations at CA-SBA-48 for the California Nanosystems Institute University of California, Santa Barbara.                                           | No                     |
| 2008 | McKim, Rebecca L.                                                                | SR-04411 | Appendices.                                                                                                                                                            | No                     |
| 2009 | Enright, Erin A. and Haslouer, Leeann G.                                         | SR-04437 | Phase 1 Archaeological Resources Report, Storm Drains and Headwalls in San Pedro Creek, Santa Barbara Airport, Santa Barbara, California.                              | No                     |
| 2010 | Janet Wolf                                                                       | SR-04638 | Santa Barbara County Flood Control and Water Conservation District Flood Control Maintenance Activities in the Goleta Slough, Draft Subsequent EIR SCH No. 2000031092. | No                     |
| 2009 | Leftwich, Brent                                                                  | SR-04704 | Historic Property Survey Report for the Ekwill Street and Fowler Road Extensions Project.                                                                              | No                     |
| 2008 | Stone, David                                                                     | SR-04721 | Phase 1 Archaeological Investigation ATK Space Systems Group Building Addition, 600 Pine Avenue, Goleta, California.                                                   | No                     |
| 2009 | Drennan, Trisha                                                                  | SR-04826 | An Archaeological Inventory Survey, San Jose Creek Capacity Improvement Project, in the City of Goleta, Santa Barbara County, California.                              | No                     |
| 2009 | Haslouer, Leeann G., Snethkamp, Pandora, Lebow, Clayton G., and Munns, Ann M.    | SR-04852 | Master Archaeological Resources Assessment for the Santa Barbara Municipal Airport, Santa Barbara, California.                                                         | No                     |

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| Year | Author                                              | CCIC ID  | Report Title                                                                                                                                                                   | Addresses Project Site |
|------|-----------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 2013 | Haslouer, Leeann G. and Munns, Ann M.               | SR-04886 | Archaeological and Native American Monitoring of Soil Sampling for the La Goleta Natural Gas Storage Facility, Goleta, Santa Barbara County, California.                       | No                     |
| 2009 | Stone, David and Victorino, Ken                     | SR-04892 | Extended Phase 1 Archaeological Investigation, GSD Wastewater Treatment Plant Upgrading Project.                                                                               | Yes                    |
| 2010 | David Stone                                         | SR-04905 | Archaeological Resources Assessment, Concrete Recycling Facility, 903, 905, 907, & 909 South Kellogg Avenue, City of Goleta, California.                                       | No                     |
| 2009 | Ken Victorino and David Stone                       | SR-04911 | Letter Report for Archaeological Monitoring, Goleta Sanitary District.                                                                                                         | Yes                    |
| 2012 | David Stone and Ken Victorino                       | SR-04949 | Extended Phase 1 Archaeological Investigation, Lund Industrial Park Project, Technology Drive, Goleta, California.                                                             | No                     |
| 2009 | Conway, Thor                                        | SR-05025 | An Archaeological Surface Survey and Updated Records Search for the Goleta Slough Flood Control Dredging Project, Goleta, Santa Barbara County, California.                    | No                     |
| 2006 | Donaldson, Milford Wayne                            | SR-05036 | Re: Section 106 Consultation for Taxiway Bravo Alignment, Santa Barbara Airport, Santa Barbara, Santa Barbara County, CA.                                                      | No                     |
| 2013 | Haslouer, Leeann G. and Munns, Ann M.               | SR-05075 | Archaeological and Native American Monitoring of Soil Sampling for the Goleta Natural Gas Storage Facility, Goleta, Santa Barbara County, California.                          | No                     |
| 2013 | Erin A. Enright, Clayton G. Lebow, and Ann M. Munns | SR-05556 | Extended Phase 1 Report CA-SBA-1158 (P-42-001158) State Route 217, PM 0.50 to PM 0.72 Goleta Beach County Park Managed Beach Retreat Project Santa Barbara County, California. | No                     |

| Year | Author                                | CCIC ID            | Report Title                                                                                                                       | Addresses Project Site |
|------|---------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 2017 | Eric S. Nocerino and Clayton G. Lebow | SR-05569           | Monitoring Report for the Plains Pipeline, L.P. Refugio Incident Response Project, Santa Barbara and Ventura Counties, California. | No                     |
| 2015 | David Stone and Ken Victorino         | on file with Dudek | Phase III Mitigation Investigations CA-SBA-46 GSD Wastewater Treatment Plant Upgrades.                                             | Yes                    |

#### *Historical Aerials Review*

The 1928 historical aerial shows the proposed Project area as undeveloped and existing on the edge of the unmodified Goleta Slough. The Project area overlaps what was previously the complete Mescalitan Island. On the edge of the island, within the proposed Project site, is a thick row of trees outlining the island's border. In the northern portion of the island, there are two patches of agriculture in the approximate proposed Project site. A cleared path running north-south connects the agriculture to the southern portion of the island.

The 1938 historical aerial also shows the proposed Project area as undeveloped except for a cleared path running east-west to a cleared square within the southwestern half of the proposed Project site. It is possible that the cleared square is a structure; however, the clarity of the photograph prevents confirmation. The current Santa Barbara Airport, located directly to the west of the proposed Project site, is shown as undeveloped in this photograph.

The 1941 historical aerial shows the same path from the 1938 aerial; however, the cleared square evident in the 1938 aerial is covered in vegetation. The slough surrounding the proposed Project site is no longer filled with water. To the west, a large portion of land, including the western half of the island, has been cleared for what will be the Santa Barbara Airport. The surface of the eastern half of the island, within the proposed Project area, appears to be disturbed.

The 1944 historical aerial (see Figure 3-2) shows the channeled San Pedro Creek running north-south on the eastern border of the proposed Project site. Moffett Place and James Fowler Road are shown on the western and northern borders of the proposed Project site. At the time that this photo was taken, construction was taking place in the northern portion of Mescalitan Island, near James Fowler Road, within the proposed Project site. A cleared road running parallel to Moffett Place, slightly to the east, extends down the entire west side of the proposed Project site.

The 1956 historical aerial shows a series of four trapezoidal water basins along San Pedro Creek, as well as various ancillary structures, associated with GSD, within the proposed Project site. A section of trees has been removed from the eastern edge of the island, just west of the water basins. The only portion of the cleared path that remains is the northern portion, connecting the water basins and ancillary structures to Moffett Place. There is another path within the proposed Project site connecting the structures to James Fowler



Road; along this path, tanks and additional ancillary structures exist within the proposed Project site. The surface of the proposed Project area appears to be graded.

The 1965 historical aerial (see Figure 3-2) shows an additional two water basins within the proposed Project site, north of the previous four basins. There are three added storage tanks of various sizes, as well as another ancillary structure, within the proposed Project site. The 1965 historical aerial shows an increase in surface disturbance within the southern portion of the Project site.

The 1971 historical aerial shows an additional two tanks in the proposed Project site. Due to the clarity of the photograph, is it difficult to discern any other significant changes to the proposed Project site.

The 1986 historical aerial depicts an additional ancillary structure within the proposed Project site and continued surface disturbance, possibly grading or disking.

The 1992 historical aerial shows additional ancillary structures within the southern portion of the proposed Project site. A structure in construction is shown within the southwestern corner of the proposed Project area. The previous six water basins have been combined into three. There are two additional tanks north of the central road in the proposed Project site. In line with the new tanks to the west is a new cluster of ancillary structures within the general proposed Project area.

The 2001 historical aerial shows an additional three ancillary structures: two along the southern edge, and one along the central road, within the proposed Project site. There appear to be newly planted trees surrounding most of the ancillary structures, the northernmost water basin, and the southern and eastern borders of the proposed Project site.

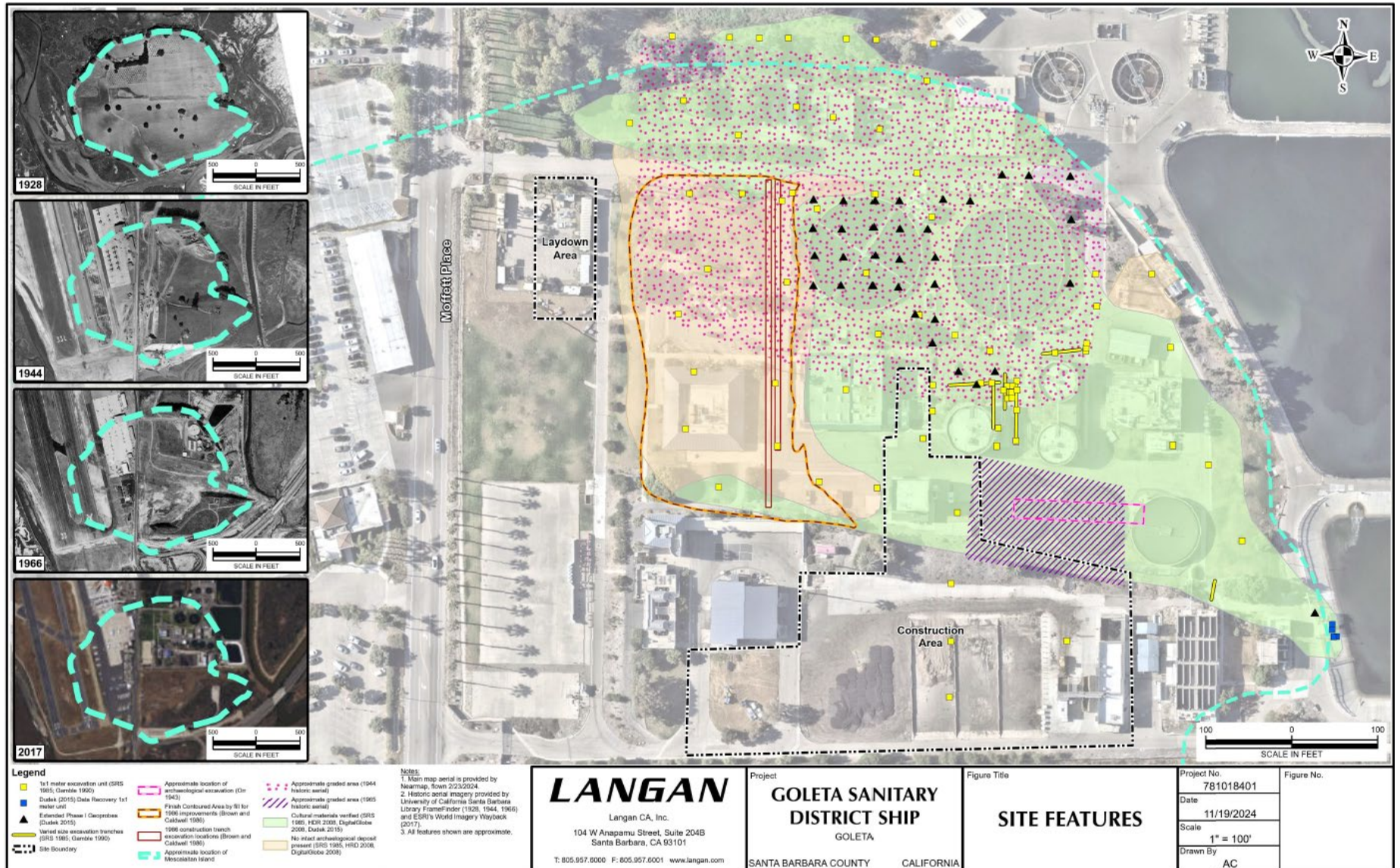
The 2010 and 2017 (see Figure 3-2) historical aerials show no significant change to the proposed Project site.

#### *Pedestrian Survey*

An intensive archaeological survey of the proposed Project area was completed on August 16, 2024, by Langan' Cultural Resource Practice Director Heather McDaniel McDevitt, M.A., RPA. All exposed ground surfaces were walked in no less than 3-meter (10-foot) parallel transects. At the time of the survey, the proposed Project area was not yet determined, so a larger area than the current proposed Project area was surveyed. Boot scrapes were employed where needed to expose surface soils. Careful attention was given to barren ground, including at the base of trees, within dirt paths and landscape beds, and subsurface soils exposed by burrowing animals. The exposed soils under vegetation and within landscape beds accounted for approximately 15% of the proposed improvement area and provided very good to excellent ground surface visibility (80-100%). Areas developed with structures and pavement accounted for approximately 85% of the proposed improvement area and provided none to poor ground surface visibility (0-30%). A considerable amount of fragmented and weathered shell was observed in the areas where soils were observable. No other cultural material, such as tools or lithic material, was observed within the proposed Project area.

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Figure 3-2: Previous Disturbance and Investigations of Goleta Sanitary District





***Environmental Determination:***

- a) Cause substantial adverse change in the significance of a historical resource pursuant to §15064.5? and***
- b) Cause substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?***

Impact: Less Than Significant Impact with Mitigation Incorporated

No structures meeting the criteria of a historical resource pursuant to Section 15064.5 are located within or immediately surrounding the proposed Project site. The proposed Project site exists within archaeological site CA-SBA-46, a site with both historic and prehistoric components and the location of the former Barbareño Chumash village Helo'. This site has been studied by archaeologists at length both prior to and after a large portion of the site was used to infill the Goleta slough in preparation for the then Navy airport (now SBA). Despite the disturbance, intact cultural deposits have been identified in the last 80 years. Although not formally listed on either the California Register of Historic Resources or the National Register of Historic Resources, the site meets the criteria of historically or culturally significant pursuant to PRC Section 5024.1(g). Based on the proposed ground disturbing activities, the Project would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, as the proposed activities would materially alter in an adverse manner those physical characteristics of the historical resource that convey its eligibility for inclusion in the California Register of Historical Resources. Previous archaeological testing and excavation efforts have identified intact deposits within the proposed Project's general area. Archaeological testing and excavations conducted in the past 30 years at CA-SBA-46 include a facility-wide significance evaluation undertaken in 1985 by SRS. The results of the survey identified the integrity and variability of remaining cultural deposits within CA-SBA-46 and categorized the variability into five density levels: Level I – 30,140.0 grams per cubic meter; Level II – 1,242.9 grams per cubic meter; Level III – 229.3 grams per cubic meter; Level IV – 34.1 grams per cubic meter; and Level V – no A horizon present. Generally, the highest densities of shellfish, animal bone, stone tools, waste flake debitage, and stone tools were found in the southeastern corner of the GSD WRRF and extremely low densities in the western portion of the GSD WRRF.

The proposed Project elements would exist within an area that has been verified as having cultural material present within intact native soils and in an area that does not have enough data to determine the potential of intact cultural deposits to exist. During the preliminary design stage of the proposed Project, the locations of proposed pipelines were adjusted to stay aligned with previously disturbed areas. The proposed Project redesign would avoid the potential for disturbing areas of CA-SBA-46 with known high diverse densities of cultural resources identified during the previous significance evaluation (SRS 1985), as well as the previous data recovery mitigation excavations conducted in the 1980s through 1990s. However, there still remains the possibility of encountering concentrations of cultural remains within areas of moderate, low, or no cultural materials, as well as inadvertently encountering isolated artifacts or human remains within previously disturbed soils. In the event that unanticipated archaeological resources are encountered during Project implementation, impacts to these resources could be potentially significant.

The mitigation measures identified in Section 3.5.2 have been created to minimize impacts to cultural resources to less than significant. Implementation of MM-CUL-1 would ensure exploratory excavations and, if necessary, data recovery efforts in areas of high to moderate density and variability possessing data potential, capable of providing information about the prehistoric and historic periods in this area; MM-CUL-2 would establish a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases, which would provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the proposed Project; MM-CUL-3 would ensure the preparation and implementation of a Worker Environmental Awareness Program (WEAP); MM-CUL-4 would ensure that a qualified archaeologist is retained to monitor all initial ground disturbing activities and to respond to any inadvertent discoveries during Project construction; and MM-CUL-5 would ensure the proper treatment and protection of any inadvertent discovery of cultural resources, including human remains and burial artifacts, and that all construction work occurring within 50 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, can evaluate the significance of the find. Thus, potentially significant impacts to archaeological resources would be reduced to less than significant levels with MM-CUL-1 through MM-CUL-5 incorporated.

***c) Disturb any human remains, including those interred outside of dedicated cemeteries?***

Impact: Less Than Significant Impact with Mitigation Incorporated

No prehistoric or historic burials have been identified within the proposed Project site as a result of the CHRIS records search or pedestrian survey. However, considering the proposed Project is located within the archaeological site CA-SBA-46, the location of the former Barbareño Chumash village Helo', there is potential that an inadvertent discovery of human remains could occur. In the unexpected event that human remains are found, those remains would require proper treatment in accordance with applicable laws. Procedures of conduct following the discovery of human remains on non-federal lands are mandated by California Health and Safety Code Section 7050.5, PRC Section 5097.98, and 14 CCR Section 15064.5(e).

The mitigation measures identified in Section 3.5.2 have been created to minimize impacts to cultural resources to less than significant. Implementation of MM-CUL-2 would establish a program of treatment and protection in the case of an inadvertent discovery of human remains throughout the duration of the proposed Project; MM-CUL-3 would ensure the preparation and implementation of a WEAP to ensure all Project personnel are aware of the appropriate procedures and protocols they must follow in the event human remains are inadvertently discovered; MM-CUL-4 would ensure that a qualified archaeologist is retained to monitor all initial ground disturbing activities and to respond to any inadvertent discoveries during Project construction; and MM-CUL-5 would ensure the proper treatment and protection of any inadvertent discovery of human remains and burial artifacts. Thus, potentially significant impacts to archaeological resources would be reduced to less than significant levels with MM-CUL-1 through MM-CUL-5 incorporated.

***Cumulative Impacts:***

Cumulative impacts on cultural resources consider whether the impacts of the proposed Project, together with other related projects identified within the vicinity of the Project site, when taken as a whole, substantially diminish the number of historic or archeological resources within the same or similar context or property type. Cumulative projects may require extensive excavation in culturally sensitive areas; thus, they may result in adverse effects to known, or previously unknown and inadvertently discovered, archaeological resources. There is the potential for accidental discovery of other archaeological resources by the proposed Project, as well as by cumulative projects. Because all significant cultural resources are unique and non-renewable, all adverse effects or negative impacts contribute to a dwindling resource base. Through implementation of MM-CUL-1 through MM-CUL-5, the Project-level impact to archeological resources would be reduced to less than significant.

Other individual projects occurring in the vicinity of the Project site would also be subject to the same CEQA requirements as the proposed Project, and any impacts to archaeological resources would be mitigated, as applicable. These determinations would be made on a case-by-case basis, and the effects of cumulative development on historic and archaeological resources would be mitigated to the extent feasible, in accordance with CEQA and other applicable legal requirements. Therefore, impacts on archaeological resources would not be cumulatively considerable with mitigation incorporated (MM-CUL-1 through MM-CUL-5).

The proposed Project was determined to have less than significant direct impact on human remains. MM-CUL-5 is adequate to address the potential for impacts due to the inadvertent discovery of human remains on the proposed Project site. Other individual projects occurring in the vicinity of the Project site would also be subject to the same State requirements to contact appropriate agencies and coordinate with the County Coroner. Therefore, the proposed Project would not result in any cumulatively considerable impacts related to human remains.

***Mitigation Measures:***

Refer to Section 3.5.2 to review the cultural resources mitigation measures. After implementation of Mitigation Measures MM-CUL-1 through MM-CUL-5, impacts to cultural resources during construction would be less than significant. No mitigation for cultural resources is required during operation.

## VI. Energy

| Issues                                                                                                                                                                            | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| <b>VI. Energy.</b> Would the project:                                                                                                                                             |                                |                                                    |                                     |                          |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### ***Environmental Determination:***

An analysis of the Project's fuel and energy consumption is provided below:

#### ***Project Construction Fuel Consumption***

The fuel consumption from the mobile sources used for construction was calculated using the CalEEMod outputs. CalEEMod calculates mass emissions of GHGs, including CO<sub>2</sub>, from offroad and onroad mobile sources associated with project construction. For construction, CalEEMod aggregates mobile source CO<sub>2</sub> emissions into four broad categories (typical fuel types assumed):

- Offroad equipment [diesel (Tiers 1-4)];
- Hauling [heavy-heavy duty diesel trucks (HHDT)];
- Vendor [medium-heavy and heavy-heavy duty diesel trucks (MHDT, HHDT)]; and
- Worker [light duty gasoline automobiles and trucks (LDA, LDT1, LDT2)].

For each category, diesel and gasoline fuel consumption can be estimated (back-calculated) using 2020 Climate Registry (40 CFR 98 Subpart C) emission factors for those fuels:

- Diesel Fuel Oil No. 2: 10.21 kg CO<sub>2</sub> per gallon [22.51 lbs CO<sub>2</sub> per gallon]; and
- Motor Gasoline: 8.78 kg CO<sub>2</sub> per gallon [19.36 lbs CO<sub>2</sub> per gallon].

Using the CalEEMod annual emissions results (MT CO<sub>2</sub>) for each of the four mobile source categories (offroad, hauling, vendor, worker) and the corresponding CO<sub>2</sub> emission factors, Table 3-10 shows estimated fuel consumption during Project construction. As shown in Table 3-10, based on CalEEMod, Project construction would consume approximately 137,750 gallons of liquid fuels.



**Table 3-10: Construction Mobile Source Energy Use**

| Mobile Sources | Types           | Fuels    | MT CO <sub>2</sub> | CO <sub>2</sub> Emission Factor (kg/gal) | Fuel Consumption (gallons) |
|----------------|-----------------|----------|--------------------|------------------------------------------|----------------------------|
| Off-Road       | Tiers 1-4       | Diesel   | 281                | 10.21                                    | 27,540                     |
| Hauling        | HHDT            | Diesel   | 1,105              | 10.21                                    | 108,230                    |
| Vendor         | MHDT, HHDT      | Diesel   | 11                 | 10.21                                    | 1,120                      |
| Worker         | LDA, LDT1, LDT2 | Gasoline | 8                  | 8.78                                     | 860                        |
| <b>Totals</b>  |                 |          | <b>1,405</b>       | <b>—</b>                                 | <b>137,750</b>             |

Sources: CalEEMod, TCR 2020, 40 CFR 98 Subpart C

*Project Operation Fuel Consumption*

Similar to construction, CalEEMod calculates mass emissions of CO<sub>2</sub> from area and mobile sources associated with project operation. For operation, CalEEMod aggregates area and mobile source CO<sub>2</sub> emissions into three broad categories (typical fuel types assumed):

- Utility equipment [gasoline];
- Heavy Mobile [light-heavy, medium-heavy and heavy-heavy duty diesel trucks (LHDT, MHDT, HHDT)]; and
- Light Mobile [light and medium duty gasoline automobiles and trucks (LDA, LDT1, LDT2, MDV)].

For each category, diesel and gasoline fuel consumption can be estimated (back-calculated) using 2020 Climate Registry (40 CFR 98 Subpart C) emission factors for those fuels. Consistent with CalEEMod, operational vehicle fleet mixes comprise approximately 90% gasoline and 10% diesel fuel usage.

Using the CalEEMod annual emissions results (MT CO<sub>2</sub>) for the area and mobile source categories and the corresponding CO<sub>2</sub> emission factors, Table 3-11 shows estimated fuel consumption during Project operation. As shown in Table 3-11, based on CalEEMod, project operation would consume approximately 12,790 gallons of liquid fuels annually.

**Table 3-11: Operational Area and Mobile Source Energy Use**

| Sources       | Types                | Fuels    | MT CO <sub>2</sub> /year | CO <sub>2</sub> Emission Factor (kg/gal) | Fuel Consumption (gallons/year) |
|---------------|----------------------|----------|--------------------------|------------------------------------------|---------------------------------|
| Area          | Utility Equipment    | Gasoline | 0.3                      | 8.78                                     | 30                              |
| Heavy Mobile  | LHDT, MHDT, HHDT     | Diesel   | 9                        | 10.21                                    | 890                             |
| Light Mobile  | LDA, LDT1, LDT2, MDV | Gasoline | 104                      | 8.78                                     | 11,870                          |
| <b>Totals</b> |                      |          | <b>113</b>               | <b>—</b>                                 | <b>12,790</b>                   |

Sources: CalEEMod, TCR 2020, 40 CFR 98 Subpart C

*Project Operation Utilities Energy Consumption*

Based on CalEEMod for the defined land use, Table 3-12 shows estimated natural gas and electric power usage for the Project.

As shown in Table 3-12, Project operation would result in natural gas usage of approximately 0.71 million cubic feet per year (MMcf/year), and utilization of approximately 190 megawatt-hours per year (MWh/year) of electric power.

**Table 3-12: Operational Utility Energy Use**

| Utility Type                | Quantity | Units     |
|-----------------------------|----------|-----------|
| Natural Gas                 | 0.71     | MMcf/year |
| Electric Power <sup>1</sup> | 190      | MWh/year  |

Source: CalEEMod

1. Includes electricity consumption for building and water processes.

***a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy?***

Impact: Less Than Significant Impact

Construction of the Project would require consumption of petroleum fuels (diesel and gasoline) by the use of construction equipment on-site, by construction equipment delivering supplies to the Property, and by construction workers traveling to and from the Property. The energy required by construction would be temporary and would not be a substantial demand on energy resources. Electricity usage is anticipated to be relatively minor (if used for construction) compared to normal building operations. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Moreover, there are no distinctive Project characteristics that would require the utilization of construction equipment that are less energy-efficient than comparable equipment at construction sites in other parts of the state. The energy consumed during the construction of the Project would facilitate the development of buildings that adhere to the latest energy efficiency standards outlined in California Title 24 Building Standards Code (CCR, Title 24, Part 6, California Energy Code).

The majority of the energy usage in the Project would consist of lighting, electronic devices, transportation fuels, and climate control. The Project must be designed and will be operated in accordance with the applicable California Building Codes (CBC) (CCR, Title 24, Part 2) and the latest energy code standards (CCR, Title 24, Part 6), which impose energy conservation measures. For building energy usage, the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) were established in 1978 in response to a legislative mandate aimed at reducing California's energy consumption. The current applicable standards are the 2022 Codes, which became effective on January 1, 2023. These standards play a crucial role in promoting energy-efficient practices and ensuring sustainable construction and operation of buildings in California. As such, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operations. In addition, energy efficiency for vehicles travelling to and from the Property are governed by the Corporate Average Fuel Efficiency standards, which establishes fuel efficiency standards. Furthermore, future vehicle purchases are affected by the State of California's Advanced Clean Cars II Rule,

which will transition the vehicle fleet toward more energy-efficient electric vehicles. Therefore, the Project's impact on energy would be less than significant.

***b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

Impact: Less Than Significant Impact

As noted above, the energy required for construction would be temporary and would not be substantial nor would it involve any atypical demand on energy resources. The Project would need to adhere to the energy efficiency standards adopted within the State of California's Title 24 Building Standards (CCR, Title 24, Part 6). These updated standards incorporate the California Energy Commission's (CEC) energy efficiency guidelines, resulting in a reduction of energy consumption to the previous Title 24 Building Standards. Due to the Project design, construction, and the nature of operational energy use, the Project would not conflict or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, the Project would result in a less than significant impact on energy.

***Mitigation Measures:***

No mitigation is required.

## VII. Geology and Soils

| Issues                                                                                                                                                                                                                                                                                  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>VII. Geology and Soils.</b> Would the project:                                                                                                                                                                                                                                       |                                |                                                    |                                     |                                     |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:                                                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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 type="checkbox"/>            | <input checked="" 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 type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?                                                                                                                                                                                                                           | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" 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 project, and potentially result in on- or off-site 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 direct or indirect 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 waste water?                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?                                                                                                                                                                                 | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>            | <input type="checkbox"/>            |

### ***Existing Conditions:***

The geologic and soils information in this section is derived from two main sources: a Geotechnical Evaluation by Ninyo & Moore (2022), which is included as Appendix D of this MND, and a paleontological records search conducted through the Natural History Museum of Los Angeles County (LACM), detailed in Appendix E.

### ***Faults***

The Project site is situated in a seismically active area with several active faults nearby, including Mission Ridge, Red Mountain, North Channel, Pitas Point, and Santa Ynez, which can produce maximum moment magnitudes of 6.8 to 7.4. Although the site is not within one of the State of California Earthquake Fault Zones, as per the Alquist-Priolo Earthquake Fault Zoning Act, it is still near the More Ranch Fault Zone, part of the Mission Ridge Fault System, which is considered active by Santa Barbara County. The exact location of the More Ranch Fault varies in different geologic publications, but the City of Goleta Geologic Hazards Map (2009) shows it just south of the Project site. A 2009 site-specific evaluation by Earth Systems Pacific found no evidence of faulting near the proposed improvement areas (Ninyo & Moore 2022).

### ***Geologic Formations***

According to regional geologic maps and on-site borings, the Project site is underlain by fill, terrace deposits, and at greater depths, the Monterey Formation. Fill material, composed of moist, medium dense, silty sand, was found up to 3 feet below the surface. Below this, terrace deposits of moist, very stiff to hard, lean clay can be found to a depth of approximately 10 feet, as well as soft to moderately hard silty claystone thereafter to the maximum drilled depth of 71 feet (Ninyo & Moore 2022).

### ***Liquefaction***

Liquefaction occurs when loosely consolidated soils lose their loadbearing capabilities during ground shaking and behave like a fluid. This typically affects loose sands and silty sands below the water table within the upper 50 feet of the surface. The Santa Barbara County Comprehensive Plan Seismic Safety and Safety Element (2015) classifies the Project site as having a moderate liquefaction potential. However, a project-specific geotechnical investigation by Ninyo & Moore (2022) determined that liquefaction is not a design consideration for the Project, due to the hard, lean clay deposits and silty claystone found during subsurface exploration. Located within the central portion of Mescalitan Island, the site features shallow and exposed bedrock. While the county's liquefaction hazard map is regional and generalized, the site-specific borings by Ninyo & Moore indicate a low liquefaction potential at the Project site.

### ***Landslide***

Landslides typically occur on steep slopes that have been undercut by erosion or where bedrock bedding planes are inclined downward. However, the Project site has relatively flat to gently sloping topography. Based on site reconnaissance, published geologic maps, stereoscopic aerial photographs, and the City of Goleta Geologic Hazards Map (2009), landslides are not considered a potential hazard at the site (Ninyo & Moore 2022).

### *Collapsible Soils*

Borings drilled at the site indicate that the existing fill soils and terrace deposits consist of granular soils, which may be prone to caving (Ninyo & Moore 2020).

### *Expansive Soils*

Expansive soils have a high shrink-swell potential, due to their high clay content. The site-specific geotechnical report by Ninyo & Moore (2022) did not assess soil expansion potential, likely because the soils at the Project site are generally coarse-grained and not rich in clay. Therefore, expansive soils are not expected at the Project site.

### *Paleontological Resources*

Paleontological resources are preserved remains or traces of ancient plants and animals, defined by the Society of Vertebrate Paleontology (SVP 2010) as being older than approximately 5,500 years or older than written history. These resources are limited, nonrenewable, and hold significant scientific and educational value, and thus are protected under State laws and regulations.

### ***Regulatory Setting:***

#### *Federal*

#### Occupational Safety and Health Administration Regulations

Excavation and trenching are highly hazardous construction activities. According to the Occupational Safety and Health Administration (OSHA) Excavation and Trenching Standard [29 CFR (Code of Federal Regulations) Part 1926, Subpart P], all excavations where employees might be exposed to cave-ins must be protected. Protection methods include sloping or benching the excavation sides, supporting the sides, or placing a shield between the excavation side and the work area.

#### *State*

#### California Building Standards Code

State regulations for protecting structures from geo-seismic hazards are outlined in the California Building Code (CBC, 24 CCR Part 2), which is updated every three years. These regulations apply to both public and private buildings in California. The 2022 CBC, effective January 1, 2020, is based on the 2021 International Building Code and includes enhanced provisions for existing structures and more stringent seismic-resistant construction standards.

Chapters 16 and 16A of the 2022 CBC cover structural design requirements for seismically resistant construction, including factors for determining seismic site class and seismic occupancy category. Chapters 18 and 18A address foundation and soil investigations, excavation, grading, fill, damp-proofing, waterproofing, allowable loadbearing values of soils, and the design of foundation walls, retaining walls, embedded posts and poles, shallow foundations, and deep foundations. Chapter 33 includes requirements for ensuring stable excavations and slopes at work sites.

Construction activities must comply with occupational safety standards for excavation and trenching, as specified in the California Division of Occupational Safety and Health



(Cal/OSHA) regulations (Title 8 CCR) and Chapter 33 of the CBC. These regulations mandate safety measures for excavation and trench work to protect workers from unstable soil conditions. The proposed Project must implement these safety measures during excavation and trenching.

#### California Environmental Quality Act

The CEQA Guidelines mandate that all private and public activities, unless specifically exempted, be assessed for potential environmental damage, including impacts on paleontological resources. These resources are limited, nonrenewable, and hold significant scientific, cultural, and educational value, thus recognized as part of the environment under State guidelines. This study meets project requirements per CEQA (13 PRC Section 2100 et seq.) and PRC Section 5097.5 and complies with SVP (2010) guidelines and significance criteria.

CEQA explicitly protects paleontological resources under Section VII(f) of the CEQA Guidelines Appendix G, which addresses potential adverse impacts to unique paleontological resources or geological features. This includes fossils of significant importance, such as new species or genera, or fossils with unique features, as well as sites with significant fossil abundance, diversity, or preservation.

Additionally, CEQA considers a resource “historically significant” if it has yielded or may yield important prehistoric information (PRC Section 15064.5(a)(3)(D)). PRC Sections 5097.5 and 30244 regulate the removal of paleontological resources from State lands, classify unauthorized removal as a misdemeanor, and require mitigation for disturbed sites.

#### California Health and Safety Code

Sections 17922 and 17951-17958.7 of the California Health and Safety Code mandate that cities and counties adopt and enforce the current edition of the CBC, including its grading section. Specific sections of Volume II of the CBC address various geologic hazards.

#### California Occupational Safety and Health Administration Regulations

In California, Cal/OSHA is responsible for enforcing federal worker safety regulations, including those for slope protection during construction excavations. Cal/OSHA's standards are more restrictive and protective than federal OSHA standards. The requirements for excavation and trenching operations, along with safety standards for various construction activities, are detailed in 8 CCR Chapter 4, Division of Industrial Safety.

#### *Local*

California Government Code Section 65302(f) and (i) mandates that all city and county general plans include a Seismic Safety Element and Safety Element. The Santa Barbara County General Plan Seismic Safety and Safety Element provides data on geologic, soil, seismic, fire, and flood hazards to guide land use planning and assess the safety of different land uses, structures, and occupancies. The Santa Barbara County Hazard Mitigation Plan, which includes various maps and updated data, serves as the main document for public safety guidance in the event of natural disasters.

***Methodology:***

The analysis evaluates whether the proposed Project would cause geologic and soil impacts, considering State-mandated construction methods specified in Cal/OSHA regulations (Title 8 CCR), the County Building Code (Chapter 10 of the Santa Barbara Building Code), and Chapter 33 of the CBC. It also considers whether the Project would directly or indirectly destroy a unique paleontological resource, site, or geologic feature. If impacts are potentially significant, mitigation measures would be proposed to reduce impacts to less-than-significant levels, if feasible.

The analysis is informed by CEQA case law regarding the scope of analysis required in EIRs for potential impacts from existing environmental hazards, such as geological hazards near a proposed Project site. In *California Building Industry Association v. Bay Area Air Quality Management District* (2015), the California Supreme Court ruled that CEQA generally does not require agencies to analyze the impact of existing environmental conditions on a project's future users or residents. However, an exception exists: if a proposed Project risks exacerbating existing environmental hazards, the potential impact on future residents or users must be analyzed. This exception does not typically apply to existing seismic hazards, placing such hazards outside the scope of CEQA.

These considerations are reflected in the significance thresholds, which assess the extent to which the proposed Project would cause substantial adverse effects.

***Environmental Determination:***

***a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:***

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

Impact: No Impact

The Project site is not located within any State of California Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act. A site-specific evaluation by Earth Systems Pacific in 2009 found no evidence of faulting associated with the nearby More Ranch Fault near the proposed thermal dryer facilities and supporting infrastructure. Therefore, the Project would not cause substantial adverse effects, including the risk of loss, injury, or death due to the rupture of a known earthquake fault. Consequently, no impacts would occur.

- ii. Strong seismic ground shaking?***

Impact: Less Than Significant Impact

The Project site is located in a seismically active area of Southern California, with several active and potentially active faults capable of producing strong ground shaking, with magnitudes between 6.7 and 7.7. The proposed Project will be designed and constructed according to the 2022 CBC, which requires using maximum considered earthquake ground motion response accelerations for evaluating seismic loads. Ninyo & Moore (2022)

calculated a peak ground acceleration of 1.040 gravity (g), based on a magnitude 7.4 earthquake on the Red Mountain Fault, 2.5 miles from the site. The proposed facilities will also follow recommendations from the project-specific geotechnical report by Ninyo & Moore, minimizing potential damage from seismically induced ground failure. Therefore, the Project would not cause substantial adverse effects from strong seismic ground shaking, resulting in less than significant impacts.

***iii. Seismic-related ground failure, including liquefaction?***

Impact: Less Than Significant Impact

The Santa Barbara County Comprehensive Plan Seismic Safety and Safety Element indicates that the Project site is in an area with moderate liquefaction potential. A geotechnical investigation by Ninyo & Moore (2022) found that liquefaction is not a design concern for the Project due to the hard, lean clay deposits and silty claystone. Other seismic-related ground failures, such as lateral spreading and differential settlement, were also evaluated. Lateral spreading is not expected because the site is not underlain by liquefaction-prone soils. Differential settlement, which can cause foundation and utility damage, will be mitigated by following the 2022 CBC and the geotechnical recommendations, including over-excavation, recompaction of loose sediments, and seismic design of foundations and utilities. Consequently, the Project would not cause substantial adverse effects from seismic-related ground failure, resulting in less than significant impacts.

***iv. Landslides?***

Impact: No Impact

The Project site has relatively flat topography, and a project-specific evaluation by Ninyo & Moore (2022) determined that landslides would not occur in association with the Project. Therefore, the proposed Project would not cause substantial adverse effects, including the risk of loss, injury, or death due to landslides. No impact would occur.

***b) Result in substantial soil erosion or the loss of topsoil?***

Impact: Less Than Significant Impact

The proposed Project involves constructing a new thermal dryer facility, which includes a thermal fluid heater, thermal dryer, a series of pumps and conveyors, HVAC system, MCC, and related pavement and utilities. The majority of construction of the thermal dryer facility will be completed with limited impact to the plant operation, since this will be a new facility. The existing sludge drying beds will be filled and graded; new and replacement utility pipelines will be installed; thermal dryer will be installed, and a new building will be constructed; new conveyors and thermal fluid heaters will be installed, followed by the new pumps and piping. An equipment staging area will be created on WRRF's front lawn.

Demolition and removal of concrete and pavement will expose soils to wind and water erosion. Approximately 2,160 CY of soil will be excavated, 1,760 CY of which will be reused onsite for backfill. The estimated volume of excavated soil to be disposed of off-site is 400 CY. Some removal of vegetation will be required for installation of the piping system, resulting in minimal exposure of underlying soils, potentially leading to sedimentation of downstream waters.

Storm water runoff within WRRF is captured internally and treated before being discharged to the Pacific Ocean. However, runoff from the western portion of WRRF drains towards the Goleta Slough. This runoff must comply with the Santa Barbara County Storm Water Management Program and the Small Municipal Separate Storm Sewer System (MS4) Permit, which includes a Construction Site Storm Water Runoff Control Program to prevent pollutant discharge and protect receiving waters.

To comply with the MS4 Permit, GSD's existing SWPPP will be updated to include an ESCP with BMPs such as:

1. Using geotextile fabrics, erosion control blankets, retention basins, and other measures to reduce erosion and siltation.
2. Stabilizing construction site entrances/exits to reduce off-site sediment transport.
3. Protecting storm drain inlets with devices like gravel bag barriers and filter fabric fences.
4. Fencing construction staging areas and using BMPs to prevent runoff.
5. Reseeding exposed graded surfaces within 4 weeks of grading completion.
6. Maintaining erosion and sediment control measures until permanent stabilization.
7. Properly storing, handling, and disposing of construction materials to minimize storm water contamination.
8. Keeping a copy of the updated SWPPP on-site during grading and construction.

With adherence to the MS4 Permit and implementation of site-specific BMPs, the Project will not cause substantial soil erosion or loss of topsoil, resulting in less than significant impacts.

***c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

Impact: Less Than Significant Impact

The soils beneath the Project site are not prone to liquefaction or lateral spreading, and the site's relatively flat to gently sloping topography makes it unsusceptible to landslides. The area is also not subject to ground subsidence from groundwater pumping, oil extraction, or peat loss [U.S. Geological Survey (USGS) 2021]. However, the existing fill soils and terrace deposits may be prone to caving, which could lead to differential settlement and distress to structures.

The Project will be designed and constructed in compliance with the CBC and recommendations from the geotechnical report by Ninyo & Moore (2022). This includes over-excavation and re-compaction of loose soils.

Temporary slopes in loose sediments during excavation pose safety hazards, but these will be managed according to the 2022 CBC, Cal/OSHA, and the geotechnical report's recommendations. Unstable excavations should be sloped at 1.5:1 (horizontal to vertical) or flatter, and shoring will be used where necessary.

In summary, while construction will occur in loose soils prone to caving, adherence to geotechnical engineering standards, the CBC, and Cal/OSHA regulations will minimize risks, resulting in less than significant impacts.

***d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

Impact: Less Than Significant Impact

The site-specific geotechnical report by Ninyo & Moore (2022) did not assess soil expansion potential, likely because the soils are generally coarse-grained and not clay-rich. Therefore, expansive soils are not expected at the Project site. Nonetheless, the Project will be designed and constructed in accordance with the 2022 CBC requirements for expansive soils, if applicable, ensuring no substantial risks to life or property. Consequently, impacts would be less than significant.

***e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

Impact: No Impact

The proposed Project involves upgrades to the GSD wastewater treatment facility and will not use septic tanks or alternative wastewater disposal systems. Therefore, no impacts related to septic tanks or alternative systems would occur.

***f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?***

Impact: Less Than Significant with Mitigation Incorporated

The proposed Project site is located in the west-central Transverse Ranges Geomorphic Province, spanning from Point Conception to the San Bernardino Mountains, and includes several mountain ranges and offshore islands (CGS 2002; Morton and Miller 2006). The province trends east-west, contrasting with the typical northwest trend of Coastal California. Regionally, the Transverse Ranges extend offshore to include the continental shelf and islands such as Santa Cruz, Santa Rosa, and San Miguel (CGS 2002).

Surficial geological mapping (Dartnell et al. 2011) indicates that: the northeastern part of the site consists of Holocene estuarine deposits (Qe); the central part includes early Pleistocene to possibly late Pliocene siltstone (QTst); and the southernmost part contains the late Miocene Monterey Formation (Tmu). A paleontological records search revealed no paleontological resources within the proposed Project site, but significant resources have been found in similar deposits nearby (see Table 3-13), indicating high paleontological sensitivity for the site.

The Holocene deposits have low surface sensitivity, increasing with depth, while artificial fill has no sensitivity. The presence of past fossil discoveries nearby suggests a high potential for significant paleontological resources at the site. Ground-disturbing activities during construction could potentially destroy these resources, making mitigation measures necessary. Implementing MM-GEO-1 would reduce potential impacts to a less than significant level.

**Table 3-13: LACM Fossil Localities Near the Project Site**

| Locality Number                              | Formation/Depth Below the Surface              | Approximate Location                                                     | Taxa                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LACM VP 5018;<br>LACM IP 36, 416, 6913, 6919 | Unknown Pleistocene Unit/Unknown Depth         | Seacliff about south of Isla Vista between Goleta Point & Coal Oil Point | Fish (Osteichthyes); Invertebrates (Alia, Axinopsida, Barbarofusus, Caesia, Callianax, Callithaca, Calyptraea, Cancer, Cellaria, Crepidula, Cystiscidae, Decapoda, Glans, Hima, Leukoma, Lirobittium, Lottia, Luciniscia, Mactromeris, Macoma, Miodontiscus, Mitrella, Mytilidae, Nutricola, Ostrea, Paciocinebrina, Penitella, Platyodon, Saxidomas, Solen, Strongylocentrotus, Tellina, Tresus, Urosalpirix) |
| LACM VP 7954                                 | Monterey Formation/Surface                     | El Capitan State Beach                                                   | Sperm Whale (Physeteridae)                                                                                                                                                                                                                                                                                                                                                                                     |
| LACM IP 8057                                 | Pleistocene Marine Terrace/Unknown Depth       | Along the Coast East of Goleta Landing                                   | Marine Gastropod (Cryptonatica)                                                                                                                                                                                                                                                                                                                                                                                |
| LACM IP 8056                                 | Unnamed Pleistocene Conglomerate/Unknown Depth | Along the Coast East of Goleta Landing                                   | Unspecified Invertebrates                                                                                                                                                                                                                                                                                                                                                                                      |
| LACM VP 1013                                 | Unnamed Miocene Formation/Unknown Depth        | Victoria St. Sand Pit. Packard's Hill                                    | Cormorant (Phalacrocorax)                                                                                                                                                                                                                                                                                                                                                                                      |
| LACM VP 5610, 65174                          | Monterey Formation/Unknown Depth               |                                                                          | Flounder (Paralichthys), bony fish (Eclipses, Thyrsoles), herring (Xyne grex); plants                                                                                                                                                                                                                                                                                                                          |

Notes: IP, Invertebrate Paleontology Collections; VP, Vertebrate Paleontology Collections.

***Cumulative Impacts:***

Cumulative development in the Goleta Valley is not expected to incrementally contribute to geologic resource impacts because these impacts are generally site-specific. Therefore, the Project's contribution to cumulative geological resource impacts would be minimal, resulting in less than significant cumulative impacts.

***Mitigation Measures:***

Mitigation Measure MM-GEO-1, detailed in Section 3.5.3, addresses potential impacts to paleontological resources during construction. This measure involves implementing a Paleontological Resources Impact Mitigation Program and conducting paleontological monitoring before any grading activities begin. With this program in place, the potential impact of the proposed Project on geological and paleontological resources will be reduced to less than significant.



### VIII. Greenhouse Gas Emissions

| Issues                                                                                                                           | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| <b>VIII. Greenhouse Gas Emissions.</b> Would the project:                                                                        |                                |                                                    |                                     |                          |
| 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"/> |

#### ***Regulatory Setting:***

For this resource area, an investigation of the proposed Project's potential impact on climate-change-related to emissions of GHGs was conducted. There is a strong scientific consensus that the rapidity of the heating across the planet in recent decades is primarily caused by GHG emissions from human activities. Atmospheric concentrations of CO<sub>2</sub>, the main GHG, have been increasing rapidly in recent decades, with current levels representing an increase of nearly 45% over pre-industrial levels. Climate change could also have major impacts on the region's natural systems, water supply, economy, and infrastructure.

Assembly Bill (AB) 32, sets target emissions and requires that GHG emitted in California be reduced to 1990 levels by the year 2020, which is 427 million metric tons of carbon dioxide equivalent (CO<sub>2</sub>e). The year 2020 reduction target equates to a decrease of approximately 29 percent in GHG emissions below year 2020 "business as usual" (BAU) emissions (or approximately 15 percent below the current GHG emissions). BAU conditions are defined based on the year 2005 building energy efficiency, average vehicle emissions, and electricity energy conditions. The BAU conditions assume no improvements in energy efficiency, fuel efficiency, or renewable energy generation beyond that existing today.

To implement the market-based incentive provisions of AB 32, CARB approved a carbon Cap-and-Trade Program to establish a system of market-based declining annual aggregate emission limits for GHG emission sources, applicable from January 1, 2013, to December 31, 2020. The overall GHG emissions cap under the program declined by 3% each year, from 2015 through 2020. In September 2016, Governor Jerry Brown signed Senate Bill (SB) 32, which mandated a GHG emissions reduction target of 40% below 1990 emission levels by 2030. This bill effectively extended the efforts already in effect associated with AB 32 implementation.

In addition to CARB's California 2022 Climate Change Scoping Plan, the SBCAPCD offers guidance on GHG reduction in its 2022 Ozone Plan. Neither document specifically mentions thresholds for GHGs.

California's Building Energy Efficiency Standards are updated on an approximately 3-year cycle. The 2022 standards improved upon the 2019 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2022 standards went into effect on January 1, 2023 (CEC 2022). Since the Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting; high-efficiency HVAC systems; thermal insulation; double-glazed windows; water conserving plumbing fixtures; etc.), they indirectly regulate and reduce GHG emissions. The HVAC system planned for the SHIP is described in Section 2.5.4. Additionally, the Santa Barbara County Strategic Energy Plan (2019) provides a roadmap to improve utilization of renewable energy sources within the region.

***Methodology:***

GHGs – primarily CO<sub>2</sub>, methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), collectively reported as CO<sub>2</sub>e – are directly emitted from stationary source combustion of natural gas in equipment such as water heaters, boilers, process heaters, and furnaces. GHGs are also emitted from mobile sources, such as on-road vehicles and off-road construction equipment, burning fuels such as gasoline, diesel, biodiesel, propane, or natural gas (compressed or liquefied). Indirect GHG emissions result from electric power generated elsewhere (i.e., power plants), which is then used to operate process equipment, lighting, and utilities at a facility. Also, included in GHG quantification is electric power used to pump the water supply (e.g., aqueducts, wells, pipelines) and disposal and decomposition of municipal waste in landfills (CARB 2022a).

Using CalEEMod, direct on-site and off-site GHG emissions were estimated for construction and operation, and indirect off-site GHG emissions were estimated to account for electric power used by the proposed Project, water conveyance, and solid waste disposal. CalEEMod also quantifies common refrigerant GHGs (abbreviated as “R” in the model output) used in air conditioning and refrigeration equipment, some of which are hydrofluorocarbons (HFCs).

GHG emissions from operation of the proposed Project combustion sources were calculated using EPA (40 CFR Part 98 Subpart A and C) emission factors and methods and other available data. Detailed emission calculations for the Project's stationary sources are included Appendix A2.

***Significance Criteria:***

The GHG Emissions Section of the Santa Barbara County Environmental Thresholds and Guidelines Manual (2021) provides a “brightline” significance threshold for industrial projects of 1,000 MT CO<sub>2</sub>e per year. The Manual indicates that this threshold applies to industrial stationary sources subject to discretionary approvals by the County, where the County is the CEQA lead agency. It also indicates that the County will request other CEQA lead agencies to use this threshold, where the County is a CEQA responsible agency for a project. This Manual also indicates that “Climate change under CEQA differs from most other types of impacts in that they are examined as a cumulative impact that results not from an individual project's GHG emissions, but rather from GHG emissions emitted on a global scale for many decades and from many different sources,” and “The interim GHG emissions thresholds are designed to identify (1) a cumulatively considerable contribution to an existing adverse condition, and (2) a cumulatively significant impact in combination

with other projects causing related impacts.” As a result, cumulative impacts are wrapped into the applicable threshold.

The SBCAPCD Environmental Review Guidelines (2015) contain GHG emissions as well as air quality significance criteria. This guideline document indicates that a proposed stationary source project will not have a significant GHG impact if operation of the project will emit less than the screening significance level of 10,000 MT/year CO<sub>2</sub>e. Stationary source projects include equipment, processes and operations that require a SBCAPCD PTO, such as the proposed SHIP.

The SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents (2022) refers to the above Review Guidelines and to a process for determining GHG impacts but does not provide a specific threshold. This guideline document indicates that “CEQA documents should include a quantification of GHG emissions from all project sources, direct and indirect, as applicable. In addition, we recommend that climate change impacts be mitigated to the extent reasonably possible, whether or not they are determined to be significant.” Some of the mitigation measures suggested are:

- Energy use (energy efficiency, low carbon fuels, renewable energy);
- Waste reduction (material re-use/recycling, composting, waste diversion/minimization); and
- Transportation – reduce VMT.

These measures are all key components of GSD’s Biosolids and Energy Strategic Plan.

***Environmental Determination:***

***a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Impact: Less Than Significant Impact with Mitigation Incorporated

Construction emissions, per CalEEMod, are estimated to be about 1,461 MT CO<sub>2</sub>e total, which when amortized over a 30-year projected project lifetime, equates to about 49 MT CO<sub>2</sub>e. More detail on construction emissions can be found in Appendix A1. Table 3-14 shows a breakdown of the Project construction GHG emissions over the approximately 1.5 years construction period.

**Table 3-14: Construction Greenhouse Gas Emissions Summary**

| GHG               | Project Construction GHG Emissions (MT/year) |
|-------------------|----------------------------------------------|
| CO <sub>2</sub>   | 1,405                                        |
| CH <sub>4</sub>   | <1                                           |
| N <sub>2</sub> O  | <1                                           |
| R                 | <1                                           |
| CO <sub>2</sub> e | 1,461                                        |

Sources: CalEEMod version 2022.1.1.29

Table 3-15 shows a breakdown of the Project operation annual GHG emissions. The change in GHG emissions from reduction in VMT should be considered. The produced sludge is currently hauled to Liberty Composting facility in Lost Hills, CA, which is approximately

184 miles from the GSD facility. As a result of the proposed Project, sludge hauling would be reduced from one truck a day, 7 days a week, to a maximum of two trucks per week. The pelletized product may be sent to a local end-user; however, for GHG analysis purposes, in order to be conservative, it is assumed that dried pellets would continue to be sent to the same location (i.e., Liberty Composting facility in Lost Hills, CA). As such, the Project would result in a net decrease of at least 154 MT per year of CO<sub>2</sub>e.

**Table 3-15: Operation Greenhouse Gas Emissions Summary**

| GHG               | Project Operation GHG Emissions (MT/year)   |                          |                           |                     |                         |
|-------------------|---------------------------------------------|--------------------------|---------------------------|---------------------|-------------------------|
|                   | +CalEEMod "Land Use" Emissions <sup>1</sup> | -Existing Sludge Hauling | +Proposed Sludge Handling | +Stationary Sources | Project Operation Total |
| CO <sub>2</sub>   | 234                                         | -206                     | 59                        | 2,612               | —                       |
| CH <sub>4</sub>   | <1                                          | <1                       | <1                        | <1                  | —                       |
| N <sub>2</sub> O  | <1                                          | <1                       | <1                        | <1                  | —                       |
| R                 | 1                                           | <1                       | <1                        | —                   | —                       |
| CO <sub>2</sub> e | 246                                         | -216                     | 62                        | 2,615               | <b>2,707</b>            |

1. "Land Use" emission comprise Project's direct GHG area, mobile, and energy emissions as well as indirect emissions from waste and water usages, although proposed sludge hauling calculated separately.

Table 3-16 aggregates the CO<sub>2</sub>e emissions for all construction phases and includes the 30-year construction amortized emissions with the operational GHG emissions, which include the net reduction from sludge hauling emissions. Santa Barbara County specifies a threshold of 1,000 MT CO<sub>2</sub>e per year for industrial stationary-source projects in its Environmental Thresholds and Guidelines Manual (2021) to determine if GHG emissions constitute a significant cumulative impact. As shown in Table 3-16, the Project's GHG emissions would be over the County's 1,000 MT CO<sub>2</sub>e per year threshold but well below the SBCAPCD's CEQA significance threshold of 10,000 MT for industrial projects.

**Table 3-16: Greenhouse Gas Emissions Summary and Significance Evaluation**

| GHG               | GHG Emissions (MT/year)                     |                                |                            |                                        | Significant?    |
|-------------------|---------------------------------------------|--------------------------------|----------------------------|----------------------------------------|-----------------|
|                   | Amortized Project Construction <sup>1</sup> | Project Operation <sup>2</sup> | Project Total <sup>3</sup> | County/SBCAPCD Thresholds <sup>4</sup> |                 |
| CO <sub>2</sub> e | 49                                          | 2,706                          | 2,755                      | 1,000/10,000                           | No <sup>5</sup> |

Notes:

1. Construction emissions of 1,461 MT/year have been amortized for 30 years.
2. Project Operation includes the reduction from reduced VMT associated with sludge hauling.
3. Total CO<sub>2</sub>e emissions comprises construction emissions amortized over 30 years plus annual operational emissions.
4. The significance threshold from the County's Environmental Thresholds and Guidelines Manual (2021) is used, although the 10,000 MT/year CO<sub>2</sub>e threshold from the SBCAPCD Environmental Review Guidelines (2015) would also apply.
5. Although over the County's threshold, the proposed Project will incorporate design features to reduce GHG emissions "where feasible" as allowed by the County's Manual, as well as being below the SBCAPCD's threshold.

***b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

**Impact:** Less Than Significant Impact

The SBCAPCD Ozone Plan defers to SBCAG's Fast Forward 2040 for GHG reductions. SBCAG's Fast Forward 2040 focuses on transportation, instead of stationary sources. The proposed Project would be considered a beneficial use project, as it would result in reduction of VMT and, consequently, GHG emissions, and therefore would be consistent with the goals and objectives of any GHG reduction plan (federal, State, or local).

Previous SBCAPCD clean air plans (e.g., the SBCAPCD's 2013 Clean Air Plan) introduced several rules related to GHG emissions. Compliance with all SBCAPCD rules is expected. Therefore, this Project is expected to be consistent with applicable plans.

***Mitigation Measures:***

Although the County's Environmental Thresholds and Guidelines Manual (2021) identifies a low threshold for significant impacts, the manual offers that projects found to result in a significant cumulative impact would be required to reduce their GHG emissions to the applicable threshold, *where feasible*, through on-site reductions and/or off-site reduction programs approved by the County. The proposed Project would reduce the sludge hauling from one truck a day, 7 days a week, to a maximum of two trucks per week. Furthermore, GSD will continue to look for more local end users for use of the biosolids product, which will further reduce VMT. It would also meet one of GSD's key objectives for doing the SHIP, i.e., to produce a Class A biosolids material that is a beneficial product that can be used without restriction, thereby reducing waste. Because the SHIP objectives are consistent with GHG emissions reduction objectives and will implement feasible on- and off-site reductions, no further mitigation measures are required.

## IX. Hazards and Hazardous Materials

| Issues                                                                                                                                                                                                                                                                              | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>IX. Hazards and Hazardous Materials.</b> Would the project:                                                                                                                                                                                                                      |                                |                                                    |                                     |                                     |
| 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 type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §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 type="checkbox"/>            | <input checked="" 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 result in a safety hazard or excessive noise for people residing or working in the project area? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?                                                                                                                                                           | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?                                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |



***Existing Conditions:***

Current operations at GSD involve transport, storage, use, and disposal of hazardous materials. Wastewater treatment operations, by intention, typically involve the use of hazardous materials during routine operations for disinfection and treatment of wastewater, as well as during routine facility maintenance for painting and diesel-powered equipment maintenance. Many of the materials used in routine operation at the proposed Project site are considered hazardous; while many of the materials are stored and used in significant quantity on a daily basis, use of, and access to, these materials is controlled. Furthermore, materials used for painting and equipment repair activities generally are maintained at the site in limited quantities, and they are stored and handled following manufacturer and regulatory agency guidelines for safety.

Routine operations at the proposed Project site include use and storage of thermal fluid (i.e., mineral oil), as well as lubrication oil for the proposed dryer and conveyors. The oil will be transported to the site in bulk quantities and stored for daily use. The waste fluid will be tested routinely and will be disposed of accordingly.

According to EnviroStor and GeoTracker, two government programs run by the California Department of Toxic Substances Control (DTSC) and SWRCB, respectively, the site is not a previous spill site and does not have any known sources of contamination.

***Environmental Determination:***

***a) Create significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

Impact: Less Than Significant Impact

Construction activities for the proposed Project would be short-term and one-time in nature, and would involve the limited transport, storage, use, and/or disposal of hazardous materials. Some examples of hazardous materials handling include fueling and servicing construction equipment on-site and the transport of fuels, lubricating fluids, and solvents. These types of materials, however, are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the Cal/OSHA, DTSC, EPA, OSHA, and the Santa Barbara County Fire Department. Therefore, construction impacts would be less than significant.

Operation of the proposed Project would generate hazardous waste, such as used oil, empty hazardous material containers, and cleanup spill residue. Handling of hazardous materials will continue to be controlled through implementation of GSD's Hazardous Materials Business Plan (HMBP) (GSD 2024), which will be updated and maintained by the facility, as required by the local Certified Unified Program Agency (CUPA). Finally, the facility expects to continue to comply with applicable hazardous waste disposal regulations. Since the facility has readily available methods for safe transportation [DTSC- and U.S. Department of Transportation (USDOT)-approved transporters] and is required to ship certain wastes as hazardous wastes, the operational impacts of the transport, use, and disposal of hazardous materials would be less than significant.

***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?***

Impact: Less Than Significant Impact

The facility could 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. However, the proposed Project is not expected to increase any risks to the public or environment from reasonably foreseeable upset or accident conditions. The small amount of waste fluid and used oil generated during the operations of the proposed Project is not expected to cause a significant hazard to the public or environment. The proposed equipment is not expected to be any more significant a hazard than the existing equipment at WRRF.

GSD's HMBP (GSD 2024) and Emergency Response Plan (GSD 2024) already contain provisions to store and handle hazardous materials. While GSD's HMBP and Emergency Response Plan are updated annually and would need to be revised to include the new equipment that would be added under the proposed Project, the plant's hazardous materials management and emergency response procedures would remain the same.

Therefore, impacts on hazards to the public or environment from reasonably foreseeable upset or accident conditions are less than significant.

***c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

Impact: No Impact

There is no impact related to the potential for the proposed Project to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school, as no public schools are located or proposed for construction within 0.25 miles of the proposed Project site.

***d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code 65962.5 and as a result, would it create a significant hazard to the public or the environment?***

Impact: No Impact

Soils will be disturbed as a result of this Project. EnviroStor and GeoTracker indicate that the site does not have any known contamination. EnviroStor is a database maintained by the California DTSC for known contamination and/or remediation sites. GeoTracker is a database maintained by the SWRCB and documents leaking underground storage tanks. The nearest leaking underground storage tank is nearly 2,000 feet away at the airport. There are two sites in EnviroStor labeled "military evaluation" more than 950 feet from the disturbed soil; however, there are no active contaminated sites or remediation sites within 1 mile of the site. As a result, disturbing the soils should not have an impact to the public or the environment.

- e) For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

Impact: Less Than Significant Impact

The proposed Project is located within an airport land use plan, resulting in a safety hazard for people residing or working in the Project area. The nearest public airport to the proposed Project is the adjacent SBA, located immediately west of One William Moffett Place, the western boundary to the proposed Project site. While the airport is located adjacent to the proposed Project site, the site is not located beneath the approach, departure, or sideline zones of the airport, the areas of greatest hazard to people on the ground. Furthermore, as this Project is an expansion of the existing facility with only one additional permanent employee, only a limited number of additional temporary personnel for construction will be exposed to the hazard posed by the airport. Implementation of the proposed Project requires no change in zoning for the site, and the impact is considered less than significant.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

Impact: Less Than Significant Impact

While GSD's HMBP and Emergency Response Plan are updated annually and would need to be revised to include the new equipment that would be added under the proposed Project, the plant's hazardous materials management and emergency response procedures would mostly remain the same. The facility will reevaluate its emergency response plan and evacuation plan and make necessary changes; however, no significant changes are expected, as the equipment does not restrict movement along evacuation routes, and the small amounts of new hazardous materials associated with the engine are not expected to alter the emergency response plan significantly. Therefore, impacts would be less than significant.

- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

Impact: No Impact

The proposed Project would not expose people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed Project site is located in a partially developed portion of the Goleta Valley. The surrounding area does not contain dense areas of flammable brush, grass, or trees. The site is not near areas containing dense vegetation (flammable brush) considered to be wildlands. The proposed Project is surrounded by asphalt, concrete, and grass, which do not pose a significant fire risk. Furthermore, the proposed Project is required to comply with local fire code requirements. Therefore, no impact would occur.

***Mitigation Measures:***

No mitigation is required.

## X. Hydrology and Water Quality

| Issues                                                                                                                                                                                                                 | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>X. Hydrology and Water Quality.</b> Would the project:                                                                                                                                                              |                                |                                                    |                                     |                                     |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?                                  | <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 or through the addition of impervious surfaces, in a manner which would: | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i) result in a substantial erosion or siltation on- or off-site;                                                                                                                                                       | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;                                                                                            | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or                             | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv) impede or redirect flood flows?                                                                                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?                                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?                                                                                                | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

***Existing Conditions:***

WRRF is located adjacent to San Pedro Creek, near San Jose Creek and Atascadero Creek (300 feet and 700 feet southeast, respectively), and approximately 1,200 feet north of the Goleta Slough Channel. Each of these waterways converge into the Goleta Slough that flows into the Pacific Ocean (California DWR 2004, 2021; Goleta Water District 2017). Most storm water at WRRF is internally managed and treated before being discharged offshore. This occurs through a series of on-site stabilization basins, where the water either evaporates or flows to the main pump station, and is then handled by the wastewater treatment process, before being discharged to the Pacific Ocean, approximately 1 mile offshore. The large grassy lawn in the western portion of WRRF captures storm water with the residual runoff flowing toward Moffett Place and then to the Goleta Slough.

Surface water quality at the site is regulated under the Santa Barbara County Storm Water Management Program and the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small MS4s (SWRCB Water Quality Order No. 2013-0001-DWQ; NPDES General Permit No. CAS0000004). WRRF is situated over the Central Subbasin of the Goleta Groundwater Basin that extends from the Santa Ynez Range foothills on the north to the More Ranch Fault Zone on the south. The Basin is comprised of three subbasins, the West, Central, and North Subbasins with the most usable stored groundwater existing within the fully adjudicated Central Subbasin, making it a low-priority basin under the 2014 Sustainable Groundwater Management Act (SGMA) (California DWR 2004, 2021; Goleta Water District 2017).

This basin is partially recharged by the Atascadero, Carneros, Cieneguitas, Las Vegas, Maria Ygnacio, San Antonio, San Jose, and Tecolotito creeks. Another recharge source is the bedrock located in the foothills. The principal water-bearing units are derived from Holocene to Pleistocene alluvium, reaches a maximum thickness of about 100 feet, and yields significant amounts of water. The Pleistocene Santa Barbara Formation serves as the main water source for the basin, reaches a maximum thickness of 2,000 feet in the southern part, and generally has confined groundwater (California DWR; Goleta Water District 2017).

Groundwater at WRRF site is about 57 feet below ground surface, based on borings conducted in 2020. However, groundwater has been identified as shallow as 3 feet (equal to an approximate elevation of 6 feet above MSL), approximately 1,400 feet northeast of the Project site east of San Pedro Creek (Ninyo & Moore 2021 and 2022). The entire WRRF facility is within a 500-year flood zone. Although northern and eastern portions of the facility are within a 100-year flood hazard zone, the proposed construction areas are not (FEMA 2018; CDOC 2009; City of Goleta 2016).

***Regulatory Setting:***

***Federal***

**Clean Water Act**

The increasing public awareness and concern for water pollution led to the Federal Water Pollution Control Act Amendments of 1972, which were further amended in 1977 and became known as the CWA (33 USC 1251 et seq.). The CWA is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters. It

established guidelines for regulating pollutant discharges into U.S. waters and requires states to adopt water quality standards to protect public health, enhance water quality, and ensure the CWA's implementation.

#### Section 303 of the Clean Water Act (Beneficial Use and Water Quality Objectives)

The Central Coast Regional Water Quality Control Board (Central Coast RWQCB) is tasked with protecting the beneficial uses of waters in Santa Barbara County. The Central Coast RWQCB uses its authority in planning, permitting, and enforcement to implement water quality management plans and policies, as outlined in the Basin Plan. This plan includes definitions of beneficial uses for surface waters, groundwater basins, marshes, and mudflats, which are used to establish water quality objectives and discharge conditions.

The Basin Plan identifies existing and potential beneficial uses of key surface water drainages in the region. Under Section 303(d) of the CWA, California must list impaired water bodies that do not meet water quality standards. The Central Coast RWQCB develops Total Maximum Daily Loads (TMDLs) for specific pollutants in these impaired water bodies to ensure they meet water quality standards.

#### Section 401 of the Clean Water Act (Water Quality Certification)

Section 401 of the CWA mandates that applicants for federal permits, such as a USACE Section 404 permit, must obtain state certification to ensure that discharges into U.S. waters comply with the CWA and state water quality standards. Specifically, applicants for a Section 404 permit, required for discharging dredged or fill material into U.S. waters, must also secure water quality certification under Section 401. In the Project area, the Santa Ana Regional Water Quality Control Board (SARWQCB) provides the necessary Section 401 water quality certification.

#### Section 402 of the Clean Water Act (NPDES)

The CWA was amended in 1972 to make the discharge of pollutants from any point source into U.S. waters unlawful unless it complies with an NPDES permit (33 USC 1342). Section 402 of the CWA established the NPDES permit program to control water pollution. In California, the EPA has authorized the SWRCB to implement the NPDES program.

The Phase II Rule, finalized on December 8, 1999, expanded the NPDES program to include storm water discharges from construction sites disturbing between 1 and 5 acres (i.e., small construction activity). These discharges are regulated by the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Order No. 99-08-DWQ), also known as the General Construction Permit. Applicants must obtain coverage under this permit and develop a SWPPP outlining BMPs to protect storm water runoff and meet water quality standards, including TMDL waste allocations.

The SWPPP must include a visual monitoring program, a chemical monitoring program for non-visible pollutants if BMPs fail, and a sediment monitoring plan if the site discharges to a water body listed for sediment under Section 303(d). Regular inspections of all BMPs are required. On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), effective July 1, 2010.



### National Flood Insurance Program

The National Flood Insurance Act of 1968 instituted the National Flood Insurance Program (NFIP) to provide flood insurance to communities that adopt floodplain management programs aimed at reducing future flood losses. The Act mandates the identification of all floodplain areas in the U.S. and the establishment of flood risk zones within these areas. The Federal Emergency Management Agency (FEMA) administers the NFIP, coordinating with communities to set effective floodplain management standards.

FEMA prepares Flood Insurance Rate Maps (FIRMs) that outline areas of known special flood hazards and their associated risks. The program promotes the adoption and enforcement of local floodplain management ordinances to mitigate flood risks. FEMA also identifies flood hazard areas across the U.S. on flood hazard boundary maps.

### Federal Antidegradation Policy

The Federal Antidegradation Policy (40 CFR Part 131.12) mandates that states create and implement statewide antidegradation policies. These policies must, at a minimum, protect and maintain:

- Existing in-stream water uses.
- Existing water quality that exceeds the levels needed to support current beneficial uses, unless a state determines that lowering the water quality is essential for economic and social development in the area.
- Water quality in waters designated as outstanding national resources.

### *State*

### Senate Bill 610 and Senate Bill 221: Water Supply Assessments and Water Supply Verifications

Effective January 1, 2002, Senate Bill (SB) 610 and SB 221 strengthen the connection between land use decisions by cities and counties and the availability of water supply. According to Water Code Section 10912(a), projects requiring a water supply assessment under the CEQA include:

- Residential developments with more than 500 dwelling units.
- Shopping centers or business establishments employing over 1,000 people or with more than 500,000 square feet of floor space.
- Commercial office buildings employing over 1,000 people or with more than 250,000 square feet of floor space.
- Hotels or motels with more than 500 rooms.
- Industrial, manufacturing, or processing plants or industrial parks housing more than 1,000 people, occupying over 40 acres, or having more than 650,000 square feet of floor area.
- Mixed-use projects including any of the specified project types.
- Projects demanding water equivalent to or greater than that required by a 500-dwelling unit project.

A key document for complying with SB 610 is the Urban Water Management Plan that water suppliers can use to meet the requirements of SB 610.

#### Sustainable Groundwater Management Act

On September 16, 2014, California Governor Jerry Brown signed a three-bill legislative package, AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), known collectively as the SGMA. This legislation requires governments and water agencies managing high- and medium-priority groundwater basins to stop overdraft and achieve balanced levels of groundwater pumping and recharge.

Key points of SGMA include:

- Achieving sustainability within 20 years of implementing sustainability plans.
- Critically overdrafted basins must reach sustainability by 2040.
- Other high- and medium-priority basins must achieve sustainability by 2042.

The California Department of Water Resources (DWR) supports local agencies with guidance, financial assistance, and technical help under SGMA. The act allows local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and mandates the creation of Groundwater Sustainability Plans (GSPs) for these crucial basins. Adjudicated basins are exempt from forming GSAs or developing GSPs. However, basins considered adjudicated are exempt from developing a Groundwater Sustainability Agency or Groundwater Sustainability Plan.

#### California Porter-Cologne Water Quality Control Act

Beginning in 1973, the California SWRCB and its nine RWQCBs have been responsible for administering permitted discharges into California waters. The Central Coast RWQCB has jurisdiction over the project site. The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.; 23 CCR Division 3, Chapter 15) establishes a comprehensive water quality management system to protect California waters. Under this act, anyone discharging, or proposing to discharge, waste that could affect State water quality must file a discharge report with the relevant RWQCB. The RWQCB may then set “waste discharge requirements” to control the discharge. “Waste” is broadly defined and includes various materials, including non-point source pollution.

For discharges covered by the CWA, the state treats Waste Discharge Requirements and NPDES permits as a single permitting vehicle. In April 1991, the SWRCB and other State environmental agencies became part of the California Environmental Protection Agency (CalEPA).

The RWQCB regulates urban runoff discharges under NPDES permit regulations, covering both point sources (e.g., industrial outfall discharges) and non-point sources (e.g., stormwater runoff). The RWQCB issues construction and industrial discharge permits under the NPDES program. BMPs are required as part of a SWPPP. The EPA defines BMPs as practices to prevent or reduce water pollution, including treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage (40 CFR Part 122.2).

### CALGreen

CALGreen, also known as the California Green Building Standards Code, 24 CCR Part 11, aims to enhance public health, safety, and welfare by promoting environmentally friendly design and construction methods. It mandates sustainable construction practices for all-new construction and renovations of residential and non-residential buildings. This includes guidelines for site drainage design, stormwater management, and water use efficiency. In addition to these mandatory measures, CALGreen also includes a set of voluntary standards to encourage developers and local agencies to pursue higher standards of development.

### California Antidegradation Policy

In 1968, the California Antidegradation Policy, formally known as the Statement of Policy with Respect to Maintaining High-Quality Water in California, was adopted by the SWRCB through State Board Resolution No. 68-16. Unlike the Federal Antidegradation Policy, the California policy applies to all State waters, including isolated wetlands and groundwater, and not just surface waters. The policy mandates that if the existing quality of a water body exceeds the quality established in individual Basin Plans, this high quality must be maintained. Discharges to such water bodies must not unreasonably affect present or anticipated beneficial uses of the water resource.

### California Toxics Rule

The EPA sets water quality criteria for certain toxic substances through the California Toxics Rule. This rule establishes both acute (short-term) and chronic (long-term) standards for bodies of water, including inland surface waters, enclosed bays, and estuaries. These standards apply to waters designated by each RWQCB as having beneficial uses that protect aquatic life or human health.

### California Water Code

The California Water Code identifies 22 types of districts or local agencies with specific statutory provisions for managing surface water, many of which also have authority for groundwater management. For instance, a Water Replenishment District (Water Code Section 60000 et seq.) can establish groundwater replenishment programs and collect related fees, while a Water Conservation District (Water Code Section 75500 et seq.) can impose groundwater extraction fees. Additionally, through special legislative acts, 13 local agencies have been granted enhanced authority to manage groundwater. Most of these agencies, formed since 1980, can limit water export and control in-basin extraction in cases of overdraft or potential overdraft conditions. They can also levy fees for groundwater management and water supply replenishment activities.

### Assembly Bill 3030 – Groundwater Management Act

AB 3030 was passed in 1992, expanding the number of local agencies authorized to develop groundwater management plans, as well as establishing a common framework for local groundwater management across California. These agencies can have the same authority as a water replenishment district to “fix and collect fees and assessments for groundwater management” (Water Code Section 10754), contingent upon receiving majority voter approval in a local election (Water Code Section 10754.3).

*Local*

General Waste Discharge Requirements for De Minimis Discharges

On December 8, 2017, the Central Coast RWQCB adopted the Waste Discharge Requirements, NPDES General Permit for Discharges with Low Threat to Water Quality (Order No. R3-2017-0042, NPDES No. CAG993001). This permit regulates the discharge of groundwater and non-storm water construction dewatering waste to surface waters, including estuarine and ocean waters, that pose an insignificant threat to water quality in the Central Coast. Discharges under this permit must comply with specific discharge specifications, receiving water and groundwater limitations, as well as monitoring and reporting requirements, as detailed in the permit.

Santa Barbara County General Plan Conservation Element, Groundwater Resources Section

The Groundwater Resources Section of the Santa Barbara County General Plan Conservation Element provides background information and policy direction for conserving, developing, and utilizing groundwater resources in Santa Barbara County. The goals, policies, actions, and development standards aim to enhance the coordination of groundwater supply and land use planning within the county.

***Environmental Determination:***

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

Impact: Less Than Significant Impact

*Construction*

The proposed Project involves activities that could temporarily expose soils to wind and water erosion, particularly during the demolition and removal of existing concrete and pavement, as well as soil excavation for the construction of the new thermal dryer facility, which includes a Thermal Fluid Heater and Thermal Dryer, a series of pumps and conveyors, HVAC system, MCC, and related pavement and utilities. Approximately 2,160 CY of soil will be excavated, 1,760 CY of which will be reused onsite for backfill. The estimated volume of excavated soil to be disposed of off-site is 400 CY. Additionally, an equipment staging area would be created on the front lawn of WRRF, potentially exposing underlying soils.

Non-sediment-related pollutants from construction materials and non-storm water flows, such as paint, mortar, chemicals, and petroleum products, are also concerns during construction. Storm water runoff within WRRF is internally captured and treated before being discharged to the Pacific Ocean. However, runoff from the western portion of WRRF drains toward the Goleta Slough and is subject to the Santa Barbara County Storm Water Management Program, Small MS4 Permit. This permit requires a Construction Site Storm Water Runoff Control Program to prevent pollutant discharge and protect beneficial uses of receiving waters.

To comply with the MS4 Permit, the GSD's existing SWPPP would be updated to include an ESCP with BMPs. Groundwater may be encountered during construction, with

dewatering required in accordance with Central Coast RWQCB Order No. R3-2017-0042, NPDES No. CAG993001, which includes effluent limitations and discharge specifications.

With adherence to the Santa Barbara County Storm Water Management Program, Small MS4 Permit, and Central Coast RWQCB discharge requirements, the proposed Project would not violate water quality standards or waste discharge requirements, nor substantially degrade surface or groundwater quality. Therefore, construction impacts on water quality would be less than significant.

#### *Operations*

Surface water quality at the project site is regulated by the Santa Barbara County Storm Water Management Program, Small MS4 Permit, that applies to areas not draining internally to the treatment and disposal system, such as the construction staging area. This area will be restored to its original condition after construction and will not be used during operations. The project design includes civil grading plans to ensure the entire project area drains to on-site stabilization basins, where water will either evaporate, or be treated and discharged, to the Pacific Ocean. Consequently, the proposed Project will not violate water quality standards or waste discharge requirements, nor substantially degrade surface or groundwater quality. Therefore, operational impacts on water quality will be less than significant.

#### ***b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

Impact: Less Than Significant Impact

#### *Groundwater Supplies*

Project construction will require water for dust suppression and soil compaction, sourced either from an on-site fire hydrant or reclaimed water from the treatment plant. If potable water is used, it will be supplied by the Goleta Water District, which partially sources its water from the Central Subbasin of the Goleta Groundwater Basin. This basin is adjudicated and designated as a very low to low priority under the 2014 SGMA. The project operations will not increase water demand, ensuring that groundwater supplies are not significantly impacted. Therefore, the project will not impede sustainable groundwater management, and the impacts will be less than significant.

#### *Groundwater Recharge*

The project site, except for the western lawn area, is currently paved and impervious, making it not susceptible to groundwater recharge. These paved areas will remain unchanged after construction. The lawn area, which will be used as a construction staging area, will be restored to its original condition after construction. Therefore, the project will not significantly interfere with groundwater recharge or impede sustainable groundwater management of the basin, resulting in less than significant impacts.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- i. result in a substantial erosion or situation on- or off-site;*
  - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; and*
  - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*

Impact: Less Than Significant Impact

The construction of the new thermal dryer facility will take place on existing paved areas, and the pipe installation will primarily occur within currently paved areas, with a limited portion occurring within vegetated areas. These areas will be revegetated once pipe installation is complete. Therefore, the project will not increase impervious surfaces or associated runoff. Storm water runoff within WRRF is internally captured, with civil grading plans ensuring the entire project area drains to on-site stabilization basins for treatment before discharge to the Pacific Ocean. Runoff from the western portion of WRRF drains toward the Goleta Slough.

During construction, an equipment staging area will be created on the front lawn of WRRF, temporarily increasing runoff due to grass removal. The GSD's existing SWPPP will be updated to include an ESCP with BMPs, in compliance with the MS4 Permit requirements, to manage temporary storm water runoff and prevent off-site flooding, erosion, and polluted runoff. Consequently, drainage-related impacts will be less than significant.

*iv. Impede or redirect flood flows?*

Impact: No Impact

Portions of WRRF, including solids stabilization basins 2 and 3 and the flow equalization basin, are within a 100-year flood hazard zone. However, none of the proposed Project construction areas fall within this flood hazard zone. Additionally, no parts of WRRF are within a Tsunami Inundation Zone.

The entire WRRF is located within a 500-year flood zone. According to Executive Order 11988, Floodplain Management, federal agencies funding or permitting critical facilities must avoid the 500-year floodplain or protect the facilities to the 500-year flood level (FEMA 2020). Although WRRF is considered a critical facility, the proposed Project does not involve federal funding or permitting, so 500-year flood protection is not required. Consequently, the proposed improvements will not impede or redirect flood flows, resulting in no impacts.



***d) In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?***

Impact: Less Than Significant Impact

The proposed Project improvements will not be located within a flood zone or tsunami run-up zone. Seiches, which are oscillations in an enclosed body of water caused by strong seismic activity, could affect the nearby San Pedro Creek Channel during a strong earthquake. However, the proposed Project improvements will be at least 500 feet away from the channel, with solids stabilization basins and a flow equalization basin providing a buffer. Since seiche damage typically occurs immediately adjacent to water bodies, the distance to the proposed Project components makes seiche impacts unlikely. Therefore, the release of pollutants due to project inundation is not expected, resulting in less than significant impacts.

***e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

Impact: Less Than Significant Impact

The proposed Project improvements will drain to on-site stabilization basins, where water will either evaporate or flow to the main pump station for treatment, before being discharged to the Pacific Ocean, in compliance with an established wastewater discharge permit (Central Coast RWQCB Order No. R3-2017-0021, NPDES No. CA0048160). Runoff from the construction staging area will be managed under the Santa Barbara County Storm Water Management Program, Small MS4 Permit, minimizing off-site water quality impacts and protecting beneficial uses, as outlined in the Central Coast RWQCB Basin Plan.

If potable water from an on-site hydrant is used for dust control and soil compaction, it will be supplied by the Goleta Water District, which sources part of its water from the Central Subbasin of the Goleta Groundwater Basin. This basin is adjudicated and designated as a very low to low priority under the 2014 SGMA. The project operations will not increase water demand. Therefore, the proposed Project will not conflict with or obstruct the implementation of a water quality control plan or a sustainable groundwater management plan, and impacts will be less than significant.

***Cumulative Impacts:***

Cumulative development in the Goleta Valley will incrementally contribute to hydrology and water quality impacts. However, as analyzed above, and with adherence to the applicable Objectives and Policies in the City of Goleta's and Santa Barbara County's General Plan/Local Coastal Land Use Plans, the project's contribution to these cumulative impacts will not be significant. Therefore, cumulative hydrology and water quality impacts will be less than significant.

***Mitigation Measures:***

No mitigation is required.

## XI. Land Use and Planning

| Issues                                                                                                                                                                                 | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>XI. Land Use and Planning.</b> Would the project:                                                                                                                                   |                                |                                                    |                                     |                                     |
| a) Physically divide an established community?                                                                                                                                         | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### ***Existing Conditions:***

GSD is located in the unincorporated area of Santa Barbara County and is southwest of the boundary of the City of Goleta. GSD is located in the Eastern Goleta Valley Community Plan area and is also within the coastal zone. The Project area is located both within the jurisdiction of the County's Local Coastal Program and the CCC appeals jurisdiction. Therefore, the proposed Project is subject to the policies of the California Coastal Act and the County's Coastal Land Use Plan. Within the Eastern Goleta Valley Community Plan, the site has a land use designation of Public Utility (UT) and zoning designation of Public Utility (PU). GSD is located primarily in an area with a mix of commercial and industrial uses; however, a small residential neighborhood is located approximately 500 feet to the northeast. The SBA is located adjacent to the facility, to the west and nearly adjacent to the north. Immediately adjacent to the facility, to the east and south, is additional space designated for public utilities, which is currently not in use (i.e., vacant lots) and which is not owned or maintained by GSD.

GSD has submitted preliminary planning applications for DVP Review, CUP, and CDP for the SHIP to the County of Santa Barbara Planning and Development Department. This MND will also support that permitting process being done in parallel with those applications.

### ***Environmental Determination:***

#### ***a) Physically divide an established community?***

Impact: No Impact

The proposed Project would not divide an established community. The proposed Project site is already developed and part of the existing wastewater treatment plant area.

***b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

**Impact:** Less Than Significant Impact

The proposed Project is consistent with the purpose and intent of the Public Utilities zone and land use designation of the County of Santa Barbara. The proposed Project would be consistent with the development standards of the County's Coastal Zoning Ordinance (Article II) (County of Santa Barbara 2021b), including performance standards, height limits, and setbacks. Potentially significant impacts on biological resources and cultural resources could possibly be inconsistent with the resource protection policies of the California Coastal Act, the County's Coastal Land Use Plan, and Eastern Goleta Valley Community Plan, if they are not avoided and minimized. However, with implementation of mitigation measures for each of these issue areas, impacts would be reduced to less than significant levels, and therefore, the Project would be consistent with these policies. All potential impacts that could be found inconsistent with relevant resource protection policies have been avoided and minimized to the maximum feasible extent.

***Mitigation Measures:***

No mitigation is required.

## XII. Mineral Resources

| Issues                                                                                                                                                                | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| <b>XII. Mineral Resources.</b> Would the project:                                                                                                                     |                                |                                                    |                                     |                          |
| a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?                                 | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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 checked="" type="checkbox"/> | <input type="checkbox"/> |

### *Existing Conditions:*

The Project site is situated above the La Goleta Gas Field, which includes the La Goleta Natural Gas Storage Facility. There are no oil and gas wells directly on the Project site. The nearest well, an idle observation well, is approximately 350 feet south of WRRF and a part of the La Goleta Natural Gas Storage Facility. This facility, managed by Southern California Gas Company, utilizes the porous sandstone of the Vaqueros Formation at an average depth of 4,200 feet for natural gas storage. Originally discovered in 1929, the La Goleta Gas Field was found to contain only natural gas, not oil. The Vaqueros Formation allows for the cyclical injection and withdrawal of natural gas, which is sealed by the overlying Rincon Formation shale. The facility includes natural gas injection wells, native gas wells, and observation wells (CalGEM 2024, SoCalGas 2021).

Pursuant to the California Surface Mining and Reclamation Act (SMARA) of 1975, the State Geologist classifies land into mineral resource zones. The goal is to prevent important mineral resources from becoming inaccessible due to poor land use decisions. The Project site is designated as Mineral Resource Zone 3 (MRZ-3), indicating the presence of mineral deposits whose significance cannot be evaluated with the available data.

### *Regulatory Setting:*

The California SMARA was established to promote the conservation of the State's mineral resources and ensure that lands are adequately reclaimed after mining. Under SMARA, the State Geologist classifies land into four categories, based on mineral resource potential:

- MRZ-1: Areas with no significant mineral resources.
- MRZ-2: Areas with identified significant mineral resources.
- MRZ-3: Areas with undetermined mineral resource significance.
- MRZ-4: Areas with unknown mineral resource significance.

These classifications are crucial for land use planning. If an area has known significant mineral resources, it might affect project approvals to ensure those resources remain available for extraction. For a mineral deposit to be classified as significant, it must meet criteria related to marketability and value. These criteria vary based on whether the minerals are strategic or non-strategic, their uniqueness, and their commodity type (metallic, industrial, or construction).

The State Geologist's classification reports are submitted to the State Mining and Geology Board, that then forwards the information to local governments. These governments must incorporate the reports and maps into their general plans for consideration when making land use decisions.

***Methodology:***

The following analysis evaluates the existing environmental and regulatory settings to determine if the proposed Project would significantly impact mineral resources. For a mineral deposit to be classified as significant, it must meet marketability and threshold value criteria set by the California State Mining and Geology Board.

***Environmental Determination:***

***a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?***

Impact: Less Than Significant Impact

Given that the nearest idle observation well is approximately 350 feet south of WRRF, the proposed Project would not impact the operations of the La Goleta Natural Gas Storage Facility. Additionally, the Project site is classified as MRZ-3, or an area containing mineral deposits the significance of which cannot be evaluated from available data. Therefore, the proposed Project would not lead to the loss of a known valuable mineral resource, resulting in less than significant impacts.

***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?***

Impact: Less Than Significant Impact

Similarly, the proposed Project would not lead to the loss of availability of a locally important mineral resource recovery site as identified in any local general plan, specific plan, or other land use plan. Therefore, the impacts would be less than significant.

***Mitigation Measures:***

No mitigation is required.

### XIII. Noise

| Issues                                                                                                                                                                                                                                                                                                    | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>XIII. Noise.</b> Would the project result in:                                                                                                                                                                                                                                                          |                                |                                                    |                                     |                                     |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                                                         | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Generation of excessive groundborne vibration or groundborne noise levels?                                                                                                                                                                                                                             | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

#### *Environmental Setting:*

GSD is located adjacent to the SBA, south of the main east-west runway and east of the north-south runways. Airport noise contour maps in the SBA – Aircraft Noise Analysis (June 2024) show that the Project site is outside of the airport planning boundary/influence area.

The nearest residences are at least 1,600 feet from the proposed Project site. In addition, the Rancho Goleta mobile home park is located on the east side of Highway 217, with the closest residential mobile homes located approximately 2,300 feet from the Project site.

#### *Noise Background*

Sound is caused by vibrations that generate waves of minute air pressure fluctuations in the air. Air pressure fluctuations that occur from 20 to 20,000 times per second can be detected as audible sound. The number of pressure fluctuations per second is normally reported as cycles per second or Hertz. Different vibrational frequencies produce different tonal qualities for the resulting sound. Sound level data is typically presented in terms of dB (decibel) values; dB scales are a logarithmic index based on ratios between a measured value and a reference value. In the field of atmospheric acoustics, dB scales are based on ratios of the actual pressure fluctuations generated by sound waves compared to a standard reference pressure value. Human hearing varies in sensitivity for different sound frequencies. Several different frequency weighting schemes have been developed to



approximate the way the human ear responds to noise levels or to account for the response of building materials to airborne vibrations and sound. The “A-weighted” decibel scale (dBA) is normally used to approximate human hearing response to sound.

Varying noise levels are often described in terms of the equivalent constant dB level. Equivalent noise levels ( $L_{eq}$ ) are used to develop single-value descriptions of average noise exposure over various periods of time. Such average noise exposure ratings often include additional weighting factors for annoyance potential, due to time of day or other considerations. The  $L_{eq}$  data used for these average noise exposure descriptors are generally based on A-weighted sound level measurements, although other weighting systems are used for special conditions (such as blasting noise).

In determining the daily measure of community noise, it is important to account for the difference in human response to daytime and nighttime noise. Noise is more disturbing at night than during the day, and noise indices have been developed to account for the varying duration of noise events over time, as well as community response to them. The Community Noise Equivalent Level (CNEL) adds a 5-dB penalty for noise occurring in the evening (i.e., 7:00 p.m. to 10:00 p.m.) and a 10-dB penalty for nighttime noise (i.e., 10 p.m. to 7 a.m.) (Caltrans 2020, FTA 2018).

***Regulatory Setting:***

The Santa Barbara County Environmental Thresholds and Guidelines Manual has defined the following thresholds of significance for assisting in the determination of significant noise impacts:

- If existing exterior noise levels, including at outdoor living areas, experienced by sensitive receptors is below 65 dBA CNEL, and if the proposed Project will generate noise that will cause the existing noise levels experienced by the sensitive receptors to exceed 65 dBA CNEL – either individually or cumulatively, when combined with other noise-generating sources – then the proposed Project is presumed to have a significant impact.
- If existing exterior noise levels, including at outdoor living areas, experienced by sensitive receptors exceeds 65 dBA CNEL, and if the proposed Project will generate noise that will cause the existing noise levels experienced by the sensitive receptors to increase by 3 dBA CNEL – either individually or cumulatively, when combined with other noise-generating sources – then the proposed Project is presumed to have a significant impact.
- If existing noise levels experienced by sensitive receptors in interior living areas is below 45 dBA CNEL, and if the proposed Project will generate noise that will cause the existing noise levels experienced by the sensitive receptors in interior living areas to exceed 45 dBA CNEL – either individually or cumulatively, when combined with other noise-generating sources – then the proposed Project is presumed to have a significant impact.
- If existing noise levels experienced by sensitive receptors in interior living areas exceeds 45 dBA CNEL, and if the proposed Project will generate noise that will cause the existing noise levels experienced by the sensitive receptors in interior living areas to increase by 3 dBA CNEL – either individually or cumulatively, when

combined with other noise-generating sources – then the proposed Project is presumed to have a significant impact.

- Noise from grading and construction activity proposed within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals, or care facilities, would generally result in a potentially significant impact. According to EPA guidelines, average construction noise is 95 dBA at a 50 feet distance from the source. A 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 a.m. to 5 p.m. only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dBA may require additional mitigation.

Additionally, the Santa Barbara County Municipal Code Chapter 40, Section 40-2, limits nighttime noise to 60 dBA at 100 feet from the property line of the property upon which the sound is broadcast.

***Methodology:***

The screening-level noise analysis for Project construction was completed based on methodology developed by the USDOT Federal Highway Administration (FHWA) at the John A. Volpe National Transportation Systems Center and other technical references consistent with CalEEMod outputs for equipment utilization. The USDOT FHWA methodology uses actual noise measurement data collected during the Boston “Big Dig” Project (1991-2006) as reference levels for a wide variety of construction equipment in common use, including equipment anticipated for use constructing the proposed Project.

The FHWA noise model provides relatively conservative predictions because it does not account for site-specific geometry, dimensions of nearby structures, and local environmental conditions that can affect sound transmission, reflection, and attenuation. As a result, actual measured sound levels at receptors may vary somewhat from predictions, typically lower. Additionally, the impacts of noise upon receptors (persons) are subjective because of differences in individual sensitivities and perceptions.

Noise impacts were evaluated against community noise standards contained in the Santa Barbara County Environmental Thresholds and Guidelines Manual and Municipal Code.

***Environmental Determination:***

- a) ***Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?***

Impact: Less Than Significant Impact

***Construction:***

During construction activities, the Project would generate noise due to operation of off-road equipment, portable equipment, and vehicles at or near the Project site. Most noise

would occur during the demolition, site preparation, trenching, and building construction when heavy equipment would be operating.

The Santa Barbara County Municipal Code Chapter 40, Section 40-2 limits nighttime noise to 60 dB 100 feet from the property boundary; however, construction will not occur during nighttime hours (10 p.m. to 7 a.m.). The County of Santa Barbara Environmental Thresholds and Guidelines Manual states: “In the planning of land use, 65 dBA Day-Night Average Sound Level is regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.”

The nearest sensitive receptor is at least 1,600 feet from the proposed Project site. Based on methodology explained above, and the construction equipment in Table 2-3, using FHWA default noise generation for the type of equipment and load factors from CalEEMod, the aggregated construction noise is not expected to exceed 65 dBA threshold at the closest residential receptors. The resulting estimated noise levels are shown in Table 3-17. Furthermore, temporary construction noise would be limited to the daylight hours and would permanently cease upon completion of construction. Therefore, temporary impacts on ambient noise levels during construction would be less than significant.

**Table 3-17: Noise Impacts from Construction**

| Phase # <sup>a</sup> | CalEEMod Construction Phases <sup>a</sup> | Modeled Noise Level (L <sub>eq</sub> dBA) | Significance Threshold (CNEL dBA) <sup>b</sup> | Exceeds Threshold (Yes/No)? |
|----------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-----------------------------|
| 1                    | Demolition                                | 56                                        | 65                                             | No                          |
| 2                    | Site Preparation                          | 55                                        | 65                                             | No                          |
| 3                    | Linear, Drainage, Utilities & Sub-Grade   | 59                                        | 65                                             | No                          |
| 4                    | Building Construction A                   | 53                                        | 65                                             | No                          |
| 5                    | Building Construction B                   | 51                                        | 65                                             | No                          |
| 7                    | Architectural Coating                     | 46                                        | 65                                             | No                          |

a. No offroad equipment will be used during phases 6 and 8.

b. Santa Barbara County Environmental Thresholds and Guidelines Manual (2021).

During operation, the proposed Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Any nominal increase in operational noise from rotating equipment, such as pumps and fans, would be undetectable at the closest receptors, due to the 1,600 feet attenuation distance. Thus, impacts would be less than significant.

***b) Generation of excessive groundborne vibration or groundborne noise levels?***

Impact: Less Than Significant Impact

During construction activities, the project would generate noise and vibration due to operation of off-road equipment, portable equipment, and vehicles at or near the project site. No strong sources of vibrations (e.g., hard rock-breaking, large pile-driving) are planned to be used during the construction of the project. FTA has published standard vibration velocities for construction equipment operations. The types of construction vibration impacts include human annoyance and building damage. Building damage can be cosmetic or structural. Generally, a peak particle velocity (PPV) vibration threshold of

approximately 0.3 in/sec is sufficient to avoid physical damage to engineered structures and 0.2 for non-engineered timber and masonry buildings (FTA 2018). Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. A vibration threshold of 0.2 PPV, which corresponds to “annoying”, is typically used as the significance threshold.

No substantial ground vibrations would be transmitted off-site due to the 1,600 feet attenuation distance to the closest off-site receptors. The PPV at nearest receptors would be well below the FTA threshold of 0.2 in/sec for physical damage to non-engineered timber and masonry buildings and human annoyance. Therefore, no strong ground-borne vibrations are expected to be generated that could affect nearby structures or be noticeable to their occupants and impacts would be less than significant.

*c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise level?*

Impact: No Impact

Airport noise contour maps in the Santa Barbara Municipal Airport – Aircraft Noise Analysis (June 2024) show that the Project site is outside of the airport planning boundary/influence area; therefore, no impact would be expected.

***Mitigation Measures:***

No mitigation is required.

#### XIV. Population and Housing

| Issues                                                                                                                                                                                                              | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| <b>XIV. Population and Housing.</b> Would the project:                                                                                                                                                              |                                |                                                    |                              |                                     |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

#### ***Existing Conditions:***

GSD currently operates WRRF with a permitted wastewater throughput capacity of 9.6 MGD. Currently, GSD has 35 employees, of which about half operate the WRRF.

#### ***Environmental Determination:***

***a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

Impact: No Impact

The proposed Project would not induce population growth in the Project area. There is only one additional employee expected as a result of the Project. The proposed Project will not increase the permitted capacity of WRRF and, hence, will not influence population growth. Additionally, the proposed Project will be located at the existing facility and would not require extension, or increase the capacity, of existing off-site infrastructure. The proposed Project would not stimulate population growth, as there will be only one new employee associated with the Project. Therefore, no impact on population growth would be generated by the proposed Project.

***b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

Impact: No Impact

The proposed Project would not displace existing housing or people, necessitating the construction of replacement housing elsewhere. No housing currently exists on the site, and all proposed Project improvements are within the current WRRF property. No impact would occur.

#### ***Mitigation Measures:***

No mitigation is required.

## XV. Public Services

| Issues                                                                                                                                                                                                                                                                                                                                                                                                     | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| <b>XV. Public Services.</b> Would the project:                                                                                                                                                                                                                                                                                                                                                             |                                |                                                    |                              |                                     |
| 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 public services: | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Fire protection?                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Police protection?                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Schools?                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Parks?                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Other public facilities?                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### ***Existing Conditions:***

Fire protection services are provided to GSD by the City of Santa Barbara Fire Department and the Santa Barbara County Fire Department. The nearest responder to the site is Fire Station 8, located at 40 Hartley Place, approximately 0.5 miles from the facility. The Goleta Police Department, located at 4434 Calle Real, is about 3.4 miles from the facility.

The nearest park is Goleta Beach Park, about 1,300 feet from the facility.

### ***Environmental Determination:***

***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 public services:***

***Fire Protection?***

***Police Protection?***

***Schools?***

***Parks?***

***Other Public Facilities?***

Impact: Less Than Significant Impact



The proposed Project would not result in significant adverse impacts on fire protection. Fire protection services are provided by the City of Santa Barbara Fire Department and the Santa Barbara County Fire Department. The nearest responder to the proposed Project site is Fire Station 8, located at 40 Hartley Place, approximately 1.5 miles from the proposed Project site. The proposed Project would not result in an increase in residential units and population size and would, therefore, not affect response times.

The proposed Project would not result in a net increase of residential units or employment opportunities that could increase population and, therefore, would not result in a population increase within the service area, negating the need for a new police station or improvements to the existing police station servicing the area.

The proposed Project would not result in substantial adverse impacts to existing schools or necessitate the need for new schools. The proposed Project adds only one new employee, so there would be no demand for additional public services and facilities such as schools.

The proposed Project would not result in impacts to existing parks, and since there is no substantial increase in population associated with the Project (i.e., only one new employee is expected as a result of the proposed Project), it will not necessitate the need for new parks. There is no impact to fire protection facilities, police facilities, schools, or parks.

The proposed Project improves the existing WRRF. No adverse impacts to other public facilities would be generated by the proposed Project.

***Mitigation Measures:***

No mitigation is required.

## XVI. Recreation

| Issues                                                                                                                                                                                                         | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| <b>XVI. Recreation.</b>                                                                                                                                                                                        |                                |                                                    |                              |                                     |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### ***Existing Conditions:***

No recreation facilities are located within or near the GSD facility, and none are included in the proposed Project. The Goleta Beach Park is located 1,300 feet south of WRRF.

### ***Environmental Determination:***

***a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

Impact: No Impact

Implementation of the proposed Project would not alter the use of nearby recreational facilities. There is only one new employee associated with the Project, and the proposed Project only includes improvements within the boundaries of the current facility. Therefore, there would be no impacts to recreation or parks.

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

Impact: No Impact

The proposed Project would not require the construction or expansion of recreational facilities. Therefore, there would be no impact.

### ***Mitigation Measures:***

No mitigation is required.

## XVII. Transportation

| Issues                                                                                                                                                           | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>XVII. Transportation.</b> Would the project:                                                                                                                  |                                |                                                    |                                     |                                     |
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?                                                                                   | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Substantially increase hazards due to a geometric 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"/> |
| d) Result in inadequate emergency access?                                                                                                                        | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### ***Existing Conditions:***

Currently, GSD has 35 employees, of which about half operate WRRF.

### ***Environmental Determination:***

***a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

Impact: Less Than Significant Impact

Vehicles associated with construction of the Project would use regional and local roadways to access the Property. Vehicle trips would consist of required construction material or equipment deliveries and construction worker trips. Construction trips are temporary and should be considered less than significant compared to existing area traffic, which includes airport traffic. There is no substantial long-term increase in traffic, as only one new permanent employee is expected as a result of the proposed Project. Additionally, sludge hauling would be reduced from one truck a day, 7 days a week, to a maximum of two trucks per week. Impacts will be less than significant.

***b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?***

Impact: Less Than Significant Impact

Since only one new employee is expected as a result of the proposed Project, there is no significant long-term impact on VMT, and this Project does not conflict with, nor is it inconsistent with, CEQA Guidelines Section 15064.3(b). Additionally, the produced sludge is currently hauled to Liberty Composting facility in Lost Hills, CA, which is

approximately 184 miles from the GSD facility. As a result of the proposed Project, sludge hauling would be reduced from one truck a day, 7 days a week, to a maximum of two trucks per week. The pelletized product may be sent to a local end-user; however, for VMT analysis purposes, in order to be conservative, it is assumed that dried pellets would continue to be sent to the same location (i.e., Liberty Composting facility in Lost Hills, CA). As such, the Project would result in a reduction of VMT and will therefore have less than significant impact.

***c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

Impact: No Impact

There will be no new roadway design features or expected incompatible uses. There will be no impact on transportation hazards.

***d) Result in inadequate emergency access?***

Impact: No Impact

There are no changes which will alter the efficacy of emergency access. There is no impact from this Project.

***Mitigation Measures:***

No mitigation is required.

### XVIII. Tribal Cultural Resources

| Issues                                                                                                                                                                                                                                                                                                                                                                                                      | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|--------------------------|
| <b>XVIII. Tribal Cultural Resources.</b>                                                                                                                                                                                                                                                                                                                                                                    |                                |                                                    |                              |                          |
| a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:                     |                                |                                                    |                              |                          |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or                                                                                                                                                                                                              | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>     | <input type="checkbox"/> |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>     | <input type="checkbox"/> |

#### **Existing Conditions:**

#### *Ethnohistoric Context*

When the Spanish arrived in the Santa Barbara region in 1542, they encountered the inhabitants of the area, now collectively known as the Chumash, consisting of a set of related ethnolinguistic groups. The area the Chumash inhabited at the time extended from Morro Bay to Malibu; the islands within the Santa Barbara Channel; inland to the South Coast Range and the northwest Transverse Range, including areas like the Santa Ynez River Valley, the Carrizo Plain, the Cuyama Valley, and the San Emigdio Hills. The language spoken by the inhabitants is considered an isolate, distinct from neighboring

languages such as Salinan, Yokuts, Kitanemuk, Tataviam, and Gabelino-Tongva (Goddard 1996).

The Chumash exhibited significant internal linguistic diversity, with various regional dialects that were not always mutually intelligible. The names of different Chumash groups often reflect their associations with Mission territories. For example, the Obispeño in the north were distinct from the Central Chumash, which included the Purisimeño, Ynezeño, Barbareño, and Ventureño. These groups spoke languages different from those of the Island Chumash on the northern Channel Islands. Historical records further detail the internal diversity within these groups, identifying dialects such as Emigdiano, Castec, Matilija, Mugu, and Malibu among the Central Chumash, and Cruzeño, Roseño, and Migueleño among the Island Chumash (Kroeber 1925; Grant 1978a, 1978b; Golla 2011). The Goleta Lagoon area was historically occupied by Barbareño Central Chumash speakers, now represented by the Barbareño/Ventureño Band of Mission Indians.

Current knowledge of the Chumash people at European contact comes from various in-depth written accounts. The earliest sources are Spanish explorers like Cabrillo in 1542 and Vizcaino in 1602 (Wagner 1929; Brown 1967). These observations were expanded by accounts from early efforts to establish evangelical missions in Alta California, notably by Portolá in 1769, de Anza in 1776, and Garcés in 1776 (Coues 1900; Bolton 1927; Gamble 2008; Priestley 1937). Further details came from mission administrators' records over about 60 years (Engelhardt 1908, 1913, 1929; Geiger 1969; Geiger and Meighan 1976; Johnson 1988, 1982). Later, Euroamerican interest allowed Native American perspectives to be documented, particularly through ethno-historic records of Chumash beliefs, folk tales, music, customs, and lifeways (Blackburn 1975; Hudson et al. 1981; Harrington 1942). This documentation forms the richest body of information about the Chumash.

The written records and accounts of Chumash life provide invaluable information for archaeologists. These records detail what the Chumash people ate, how they acquired food, and how they created and used various elements of material culture (Hudson and Blackburn 1983, 1979, 1985, 1986). They also offer insights into the Chumash's understanding of the landscape, including knowledge of local plants and animals, as well as techniques for managing the environment. Additionally, these accounts describe the structure of Chumash social life, including perceptions and negotiations of hierarchy and power.

Ethnohistories provide a rich account of Chumash social hierarchy, including ideas about money, exchange, and territory, and how the management and manipulation of these elements contributed to social power structures.

Since the 1980s, the body of knowledge about the Chumash has been a major focus for archaeologists, particularly in the Santa Barbara Channel area. Researchers have been keen to explain the evolution of the social and political complexity observed in Chumash ethnohistoric records (C.D. King 1976; L.B. King 1969). They study how the Chumash acquired and controlled resources, and how these resources were moved across different environments, such as the islands, mainland coast, and interior. Archaeologists strive to examine the transportation of goods and services within the Chumash cultural sphere and between the Chumash and neighboring regions like the Central Valley, Sierra Nevada, South Coast, and Desert Interior. Detailed ethnographic records describe market-based exchanges, the use of shell-bead money, inflation control, intermediaries in inter-group



exchanges, trading parties, and the types of goods transported from different areas. These details are crucial for interpreting the archaeological record and designing research (Gamble 2008; C.D. King 1976; Johnson 1988, 1982).

Synthetic accounts of the ethnographic record sometimes provide insights into expected archaeological patterns within the Chumash interaction sphere. The focus on the evolution of complex society in the Chumash world has dominated archaeological research for several decades. Consequently, most studies have concentrated on the late prehistoric record and the development of aspects of Chumash life observed or recorded by Europeans. However, researchers must be cautious about the influence of ethnographers' interpretations, including the historical context of their observations (Haley and Wilcoxon 1997, 1999; Gill, Fauvelle, and Erlandson 2019). Contemporary re-analysis of these historical observations can lead to new insights and directions in archaeological research.

***Regulatory Setting:***

***Assembly Bill 52***

AB 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and provided for additional Native American consultation requirements for the lead agency. PRC Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe. A TCR is:

- On the CRHR or a local historic register;
- Eligible for the CRHR or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1.

AB 52 formalizes the lead agency tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the Project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a Negative Declaration, MND, or EIR.

Section 1 (a)(9) of AB 52 establishes that “a substantial adverse change to a tribal cultural resource has a significant effect on the environment.” Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures “capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource.” Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects on TCRs, the consultation shall include those topics [PRC Section 21080.3.2(a)]. The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted [PRC Section 21082.3(a)].

***Environmental Determination:***

*Native American Heritage Commission Sacred Land Files Request*

A search of the Native American Heritage Commission's (NAHC's) Sacred Land File was requested on April 13, 2020, and was conducted on April 14, 2020 by Sarah Fonseca, Cultural Resource Analyst, to determine the presence of any Native American cultural resources within the proposed Project site (see Confidential Appendix F).

*Assembly Bill 52 Consultation*

The Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to TCRs as part of the CEQA process and that the lead agency notify California Native American tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the proposed Project.

***Results:***

*Native American Heritage Commission Sacred Land Files Request*

The Sacred Land File search results were positive for known Native American heritage resources within the proposed Project site. The NAHC identified nine Native American individuals who potentially have specific knowledge on the cultural resources identified within the Project site that could be at risk.

*Assembly Bill 52 Consultation*

GSD sent notification letters via regular certified mail on July 25, 2024, to those California Native American tribes who have previously requested formal notification of proposed projects under the agency's jurisdiction. These tribes include the Santa Ynez Band of Chumash Indians (SYBCI), the Barbareño Band of Chumash Indians (BBCI) and the Barbareño Ventureño Band of Mission Indians (BVBMI) (see Confidential Appendix F). Follow-up phone calls to ensure receipt of notification were made on August 8 and 22, 2025.

One tribe, the BBCI, responded to the notification letters to make the following statement, "Thank you for the information. I would like to recommend a cultural monitor for this project. As we know, the area has the potential to reveal cultural materials." Based on this communication, the formal consultation process between GSD and the BBCI was formally closed. Based on a lack of response, formal consultation between GSD and the SYBCI and the BVBMI was formally closed. Communication that has occurred in support of the AB 52 Tribal consultation process is summarized in Table 3-18.

**Table 3-18: Native American Consultation Summary**

| Contact Name                           | Contact Dates/Method                                                                                   | Response                                                                                                                                                                                                                                                                                                                                                                                   | Date Consultation Closed |
|----------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| SYBCI,<br>Kenneth Kahn,<br>Chairperson | July 25, 2024: Letter to Kenneth Kahn; signed certified confirmation receipt of delivery on file       | No response. Follow-up phone calls to ensure receipt of notification were made on August 8 and 22.                                                                                                                                                                                                                                                                                         | August 31, 2024          |
| BVBMI,<br>Matthew Vestuto,<br>Chair    | July 25, 2024: Letter to Matthew Vestuto; signed certified confirmation receipt of delivery on file    | No response. Follow-up phone calls to ensure receipt of notification were made on August 8 and 22.                                                                                                                                                                                                                                                                                         | August 31, 2024          |
| BBCI, Eleanor Arrellanes               | July 25, 2024: Letter to Eleanor Arrellanes; signed certified confirmation receipt of delivery on file | Ms. Arrellanes responded via email on August 1, 2024 with the following recommendation, "Thank you for the information. I would like to recommend a cultural monitor for this project. As we know, the area has the potential to reveal cultural materials." Ms. Arrellanes considered communication with the District on August 1, 2024 sufficient and agreed to closure of consultation. | August 1, 2024           |

***a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)***

Impact: Less Than Significant with Mitigation Incorporated

The proposed Project site exists within the archaeological site CA-SBA-46, a site with both historic and prehistoric components and the location of the former Barbareño Chumash village Helo'. This site has been studied by archaeologists at length both prior to and after a large portion of the site was used to infill the Goleta Slough in preparation for what was then a navy airport (now Santa Barbara Municipal Airport). Despite the disturbance, intact cultural deposits have been identified in the last 80 years. Although not formally listed on either the CRHR or the National Register of Historic Resources, the site meets the criteria of historically or culturally significant pursuant to PRC Section 5024.1(g).

Based on the proposed ground disturbing activities, the Project would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, as the proposed activities would materially alter in an adverse manner those physical characteristics of the historical resource that convey its eligibility for inclusion in the CRHR. Previous archaeological testing and excavation efforts have identified intact deposits within the proposed Project's general area. Archaeological testing and excavations conducted in the past 30 years at CA-SBA-46 include a facility-wide significance evaluation undertaken in 1985 by SRS. The results of the survey identified the integrity and variability of remaining cultural deposits within CA-SBA-46 and categorized the variability into five density levels: Level I – 30,140.0 grams per cubic meter; Level II – 1,242.9 grams per cubic meter; Level III – 229.3 grams per cubic meter; Level IV – 34.1 grams per cubic meter; and Level V – no A Horizon present. Generally, the highest densities of shellfish, animal bone, stone tools, waste flake debitage, and stone tools were found in the southeastern corner of the GSD WRRF and extremely low densities in the western portion of the GSD WRRF.

The proposed Project elements would exist within an area that has been verified as having cultural material present within intact native soils and in an area that does not have enough data to determine the potential of intact cultural deposits to exist. During the preliminary design stage of the proposed Project, the locations of proposed pipelines were adjusted to stay aligned with previously disturbed areas. The proposed Project redesign would avoid the potential for disturbing areas of CA-SBA-46 with known high diverse densities of cultural resources identified during the previous significance evaluation (SRS 1985) as well as the previous data recovery mitigation excavations conducted in the 1980s through 1990s. However, there still remains the possibility of encountering concentrations of cultural remains within areas of moderate, low, or no cultural materials, as well as inadvertently encountering isolated artifacts or human remains within previously disturbed soils. In the event that unanticipated archaeological resources are encountered during Project implementation, impacts to these resources could be potentially significant.

The mitigation measures in Section 3.5.2 have been created to minimize impacts to cultural resources to less than significant. Implementation of MM-CUL-1 would ensure exploratory excavations and if necessary data recovery efforts in areas of high to moderate density and variability possessing data potential capable of providing information about the prehistoric and historic periods in this area; MM-CUL-2 would establish a program of treatment and mitigation in case of an inadvertent discovery of cultural resources during ground-disturbing phases and provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the proposed Project; MM-CUL-3 would ensure the preparation and implementation of a WEAP; MM-CUL-4 would ensure that a qualified archaeologist is retained to monitor all initial ground disturbing activities and to respond to any inadvertent discoveries during Project construction; and MM-CUL-5 would ensure the proper treatment and protection of any inadvertent discovery of cultural resources, including human remains and burial artifacts, and that all construction work occurring within 50 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, can evaluate the significance of the find. Thus, potentially significant

impacts to archaeological resources would be reduced to less than significant levels with MM-CUL-1 through MM-CUL 5 incorporated.

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

Impact: Less Than Significant with Mitigation Incorporated

The Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to TCRs as part of the CEQA process and requires lead agencies to provide notification of proposed projects to California Native American tribal representatives that have requested such notifications. Through tribal consultation and cultural resource investigations, TCRs have been identified within the proposed Project site. The following cultural mitigation measures (Section 3.5.2) and TCR mitigation measures (Section 3.5.4) have been created in consultation with interested tribes to minimize impacts to TCRs to less than significant. Implementation of MM-TCR-1 would ensure involvement of consulting tribe(s) in the WEAP training of all Project personnel to ensure awareness of the appropriate procedures and protocols they must follow in the event tribal cultural resources are inadvertently discovered; MM-TCR-2 would ensure that consulting tribe(s) are retained to monitor all initial ground disturbing activities and archaeological excavations; and MM-TCR-3 would ensure the proper treatment and protection of any inadvertent discovery of TCRs. Additionally, implementation of MM-CUL-2 would establish a program of treatment and protection in the case of an inadvertent discovery of human remains throughout the duration of the proposed Project; MM-CUL-3 would ensure the preparation and implementation of a WEAP to ensure all Project personnel are aware of the appropriate procedures and protocols they must follow in the event human remains are inadvertently discovered; MM-CUL-4 would ensure that a qualified archaeologist is retained to monitor all initial ground disturbing activities and to respond to any inadvertent discoveries during Project construction; and MM-CUL-5 would ensure the proper treatment and protection of any inadvertent discovery of human remains and burial artifacts. Thus, potentially significant impacts to TCRs would be reduced to less than significant levels with MM-TCR-1 through MM-TCR-3 incorporated in concert with the implementation of MM-CUL-1 through MM-CUL-5.

***Cumulative Impacts:***

Cumulative impacts on TCRs consider whether impacts of the proposed Project together with other related projects identified within the vicinity of the Project site, when taken as a whole, substantially diminish the number of TCRs within the same or similar context. Cumulative projects may require extensive excavation in tribally/culturally sensitive areas and thus may result in adverse effects to known or previously unknown inadvertently discovered TCRs. There is the potential for accidental discovery of other TCRs by the proposed Project or by cumulative projects. Because all significant TCRs are unique and non-renewable, all adverse effects or negative impacts contribute to a dwindling resource base. Through implementation of MM-CUL-1 through MM-CUL-5 and MM-TCR-1

through MM-TCR-3, the project-level impact to TCRs would be reduced to less than significant.

Other individual projects occurring in the vicinity of the Project site would also be subject to the same CEQA requirements as the proposed Project, and any impacts to TCRs would be mitigated, as applicable. These determinations would be made on a case-by-case basis, and the effects of cumulative development on TCRs would be mitigated to the extent feasible in accordance with CEQA, AB 52, and other applicable legal requirements. Therefore, impacts on archaeological resources would not be cumulatively considerable with mitigation incorporated (MM-CUL-1 through MM-CUL-5 and MM-TCR-1 through MM-TCR-3).

***Mitigation Measures:***

Please refer to Section 3.5.4 to review the TCR mitigation measures. After implementation of Mitigation Measures MM-CUL-1 through MM-CUL-5 (Section 3.5.2) and MM-TCR-1 through MM-TCR-3 (Section 3.5.4), impacts to TCRs would be less than significant.



## XIX. Utilities and Service Systems

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

### ***Existing Conditions:***

The Goleta Water District is responsible for supplying water within the City of Goleta and for ensuring that the delivered water quality meets applicable California Department of Health Services standards for drinking water. Reclaimed water produced at the GSD WRRF is used for all irrigation, plant processes, and the fire suppression system. The proposed Project site is in a developed area of Santa Barbara County, which contains an existing storm water collection and conveyance system.

***Regulatory Setting:***

This regulatory setting section focuses on the regulations dealing with solid waste, because that subtopic in this section was found to have the greatest potential for impacts. Water quality relations are discussed in Section 3.4.X.

*State*

Integrated Solid Waste Management Act of 1989 or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989, all jurisdictions in California are required to reduce the amount of solid waste disposed in landfills. AB 939 required a reduction of 25% by 1995 and 50% by 2000. Contracts that include work that will generate solid waste, including construction and demolition debris, have been targeted for participation in source reduction, reuse, and recycling programs. The project proponent is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of construction and demolition debris.

Public Resources Code Section 41820.5 through 41822

PRC Sections 41820.5 through 41822 require jurisdictions to submit a report to the California Department of Resources Recycling and Recovery (CalRecycle) summarizing their progress in reducing solid waste. The report must contain a variety of information, such as calculations of annual disposal reduction, a summary of progress made in implementing the source reduction, recycling element, and household hazardous waste element, as well as other information relevant to waste reduction and diversion.

Senate Bill 1383

SB 1383, approved November 3, 2020, and effective January 1, 2022, establishes targets to achieve a 50% reduction in the level of the Statewide disposal of organic waste by 2020 and a 75% reduction by 2025. The law provides CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets; it also establishes an additional target of no less than 20% of edible food that is currently disposed of to be recovered for human consumption by 2025.

Assembly Bill 341

Since the passage of AB 939, diversion rates in California have reached approximately 65%, the Statewide recycling rate is approximately 50%, and the beverage container recycling rate is approximately 80%. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75% of solid waste must be reduced, recycled, or composted by the year 2020. The State provided the following strategies to achieve that 75% goal:

- Moving organics out of the landfill;
- Expanding the recycling/manufacturing infrastructure;
- Exploring new approaches for State and local funding of sustainable waste management programs;
- Promoting State procurement of post-consumer recycled content products; and

- Promoting extended producer responsibility.

To achieve these strategies, the State recommended legislative and regulatory changes, including mandatory organics recycling, solid waste facility inspections, and revised packaging. With regard to construction and demolition, the State recommended an expansion of CALGreen standards that incentivize green building practices and increase diversion of recoverable construction and demolition materials. Current standards require 65% waste diversion on most construction and some renovation projects. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost, or anaerobic digestion before residual wastes are considered for energy recovery.

#### *Local*

The Santa Barbara County Environmental Health Services Department is the Local Enforcement Agency (LEA) for CalRecycle (County 2022a). The Santa Barbara County Code of Ordinances (County 2022b) Chapter 17 Section 23 says: “To assist the county in maintaining compliance with AB 939: the Integrated Waste Management Act which requires the diversion of at least fifty percent of all waste generated, the county specifically requires fifty percent of all construction and demolition waste to be recycled” (Ordinance 4689, Section 1).

#### ***Environmental Determination:***

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

Impact: Less than Significant

The proposed Project enhances digestion capacity, but it does not involve the relocation of WRRF or creation of a new WRRF. The proposed Project does not require additional or relocated storm water drainage infrastructure. Development of the proposed Project site is not anticipated to increase the volume or velocity of storm water runoff from the site. The proposed Project does not impact telecommunications facilities or natural gas facilities.

The facility will remain tied into the local electrical utilities in order to maintain facility functions. Impacts to the electrical utility system in general are minimal and will not require significant relocation of, or creation of new, electric utilities, excluding changes on-site. As such, the potential impacts of the Project on wastewater and water treatment facilities would be less than significant.

- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

Impact: No Impact

The proposed Project has no impact on water supplies. Water distribution infrastructure is already in place on and around the proposed Project site. The proposed changes to GSD’s facility would not require additional potable water. Reclaimed water produced on-site is used for plant processes and for on-site irrigation. One permanent personnel will be added

as a result of the proposed Project. Furthermore, GSD will comply with local, regional, and State water conservation policies and must follow standard BMPs to reduce water consumption. Therefore, there are no impacts to local water resources.

- c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Impact: No Impact

In this case, the proposed Project is at the regional wastewater treatment plant. The Project is not expected to have any impact on the volume of water received by GSD, and implementation of the proposed Project would not affect the capacity of the GSD facility. Therefore, there are no impacts on the wastewater treatment provider in terms of water treatment demand.

- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

Impact: Less Than Significant Impact with Mitigation Incorporated

Local ordinances require that at least 50% of construction debris be diverted from landfills, i.e., recycled or reused, and State law requires that 65% of construction debris be diverted from landfills. The Santa Barbara County Environmental Thresholds and Guidelines Manual indicates that more than 350 tons of construction-related solid waste could be considered significant. It is estimated that about 100 CY (~120 tons) of concrete or asphalt debris to be disposed off-site which is substantially less than the construction solid waste threshold from the Santa Barbara County Environmental Thresholds and Guidelines Manual of 350 tons per year. MM-UTIL-1, requires GSD to ensure that the construction contractor does not dispose of greater than 350 tons of solid waste in any California landfill. The proposed Project includes a thermal dryer facility. The addition of the thermal dryer facility will decrease the amount of sludge that will be hauled off-site and increase the quality of biosolids produced, increasing the potential for beneficial reuse of the product. Thus, impacts would be less than significant with implementation of MM-UTIL-1.

- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

Impact: Less Than Significant Impact with Mitigation Incorporated

In compliance with federal, State, and local statutes, more than 65% of construction debris will be diverted from landfill. MM-UTIL-1, requires GSD to ensure that the construction contractor does not dispose of greater than 350 tons of solid waste in any California landfill. The addition of the thermal dryer facility will decrease the amount of hauled sludge, and increase the quality of biosolids produced, increasing the potential for beneficial reuse of the product. The proposed Project does not directly affect compliance with SB 1383, as it is not expected to create significant new streams of organic wastes. Thus, impacts would be less than significant with implementation of MM-UTIL-1.

***Cumulative Impacts:***

Wastewater Treatment Plants/WRRFs have significant challenges to meet solid waste diversion requirements. The GSD WRRF produces biosolids, and the amount produced is dependent on the influent wastewater feedstock, which is not expected to change as a result of this Project. The excess soil and construction debris, as well as the minor additional amount of waste generated from Project operations, will add cumulatively to the solid waste generated by the GSD WRRF. GSD expects to meet the overall waste requirements by diverting biosolids from landfill disposal in the coming years. Currently, all biosolids are sent to Liberty Farms, where they are composted for beneficial reuse. The proposed Project will comply with federal, State, and local required and, as such, will divert more than 65% of construction debris from landfills; therefore, the construction solid waste impacts are not cumulatively considerable. The addition of the thermal dryer facility will decrease the amount of hauled sludge and increase the quality of biosolids produced, increasing the potential for beneficial reuse of the product. Additionally, only one on-site permanent personnel will be added as a result of this Project, so no significant additional solid waste streams are in need of consideration. The ongoing cumulative impacts to solid waste are less than significant, per the Santa Barbara County Environmental Thresholds and Guidelines Manual (2021), as the ongoing solid waste production is less than 40 tons per year.

***Mitigation Measure:***

Please refer to Section 3.5.5 for the utilities and service systems mitigation measures. After implementing Mitigation Measure MM-UTIL-1, impacts to utilities and service systems would be less than significant

**XX. Wildfire**

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

***Existing Conditions:***

The proposed Project site is within the existing GSD facility, which is concrete, asphalt, and grass.



***Environmental Determination:***

***a) Substantially impair an adopted emergency response plan or emergency evacuation plan?***

Impact: No Impact

The proposed Project does not require alterations to any roads or thoroughways. GSD has an HMBP maintained in the California Environmental Reporting System (CERS), and although the new equipment may require alterations to the HMBP, it will not impair the effectiveness of GSD's emergency response plan.

***b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***

Impact: No Impact

The proposed Project site is not in a designated moderate, high, or very high wildfire risk area. The site is relatively flat and accessible, such that the proposed Project would not contribute to the potential for uncontrolled spread of wildfire. The site is mostly free of vegetation and is adjacent to the paved runways of the SBA.

***c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***

Impact: No Impact

The proposed Project site is not in a designated moderate, high, or very high wildfire risk area according to the California Department of Forestry and Fire Protection Fire Resource Assessment Program for the County of Santa Barbara. The GSD WRRF has the required facilities and plans in place related to health and safety programs and precautions for emergencies and fire. No additional infrastructure is planned or needed to mitigate risk from wildfires. The proposed Project will not have an impact on the potential for risks from wildfires.

***d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

Impact: No Impact

The proposed Project site is in a nearly flat coastal zone with no planned drainage changes and has minimal risk of flooding or slope instability (see Section 3.4.VII and Appendix D). WRRF has large ponds and is not expected to expose workers or the public to a threat from flooding or landslides that might result in the event of a wildfire.

***Mitigation Measures:***

No mitigation is required.

## XXI. Mandatory Findings of Significance

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

***Environmental Determination:***

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?***

Impact: Less Than Significant Impact with Mitigation Incorporated

Based on the sections presented in this MND, the potentially significant impacts are to biological, cultural, geological/paleontological, and Tribal cultural resources. All other impacts are considered to be less than significant or no impact. However, with mitigation incorporated, the Project is not expected to have a significant effect on the environment, habitats, populations, animal ranges, or plant or animal communities, or eliminate examples of periods of history. The mitigation measures that ensure this are MM-BIO-1, MM-BIO-2, MM-CUL-1, MM-CUL-2, MM-CUL-3, MM-CUL-4, MM-CUL-5, MM-GEO-1, MM-TCR-1, MM-TCR-2, MM-TCR-3, and MM-UTL-1.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)***

Impact: Less Than Significant Impact with Mitigation Incorporated

Cumulative impacts are discussed for those topics where there is potential for the proposed Project to cause significant impacts. Several areas of potential cumulative impact requiring mitigation have been discussed. While the proposed Project is part of the broader BESP, each additional project identified under BESP has independent utility and serves a distinct purpose. These other projects include potentially adding food waste or grease acceptance facilities and providing storage for digester gas. They remain in the early planning stages and have not yet advanced to design; therefore, their specific environmental impacts are not reasonably foreseeable at this time and cannot be meaningfully evaluated under CEQA. Lastly, California has many programs in place to reduce the amount of solid waste being put into landfills, and GSD will continue to employ best practices and implement the measures identified. With all the mitigation measures listed in Section 3.5, the potential for cumulative impacts from construction and operation of the Project is considered less than significant.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?***

Impact: Less Than Significant Impact

With less than significant air quality and health risk impacts, GHG emissions, hazardous material, noise, wildfire, and all other potential impacts, the risk of substantial adverse effects on human beings is considered less than significant.

### 3.5 Mitigation Measures

The required mitigation measures are outlined below. A Mitigation Monitoring and Reporting Program is included in Appendix G.

#### 3.5.1 *Biological Resources*

Impacts to Nesting Birds: Should construction or vegetation clearing be initiated during the bird nesting season (January 15<sup>th</sup> to September 15<sup>th</sup>), injury and mortality to native nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code may occur.

**MM-BIO-1 Pre-construction Nesting Bird Surveys.** If Project activities are proposed during the general avian breeding season of January 15<sup>th</sup> to September 15<sup>th</sup>, the Project biologist shall conduct a pre-construction survey for active nests within 500 feet of the construction area and submit a letter report to the County of Santa Barbara prior to the pre-construction meeting. If active nests are detected, clearing and construction within a minimum of 300 feet shall be postponed until the nest(s) is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. If an active raptor or rare, threatened, endangered, or SSC bird nest is found, clearing and construction within a minimum of 500 feet shall be postponed until the nest(s) is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. The report submitted to the County shall include mitigation measures including, but not limited to, (1) worker environmental awareness training, (2) daily biological monitoring during construction activities, and (3) the locations of flags and/or stakes to provide the appropriate avoidance buffers. If no nesting birds are detected during the pre-construction survey, no mitigation is required.

The Project biologist shall continue to perform site surveys during all construction activities to detect any nesting birds that may nest on the Project site after the pre-construction survey. Pre-construction clearance surveys shall be completed as required to comply with the federal Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, California Fish and Game Code, and/or County regulations. If the biological monitor determines that Project activities are disturbing or disrupting nesting activities, the monitor will make recommendations to County staff to reduce the noise or disturbance in the vicinity. This may include recommendations such as (1) turning off vehicle engines and other equipment whenever possible to reduce noise, (2) working in other areas until the young have fledged, and (3) stopping work until young are independent of their nests (Development Standard ECO-EGV-2C in County of Santa Barbara 2017).

#### *Requirements and Timing*

Pre-construction nesting bird surveys shall be completed prior to any vegetation clearing or ground disturbance associated with construction or grading during the bird nesting season (January 15<sup>th</sup> to September 15<sup>th</sup>). The survey should be conducted within 1 week prior to construction or site preparation activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site.

#### *Monitoring*

GSD shall ensure the pre-construction nesting bird surveys, and any avoidance requirements, are completed prior to commencement of any earthmoving activities. The

results of the pre-construction nesting bird survey will be submitted to the County prior to the pre-construction meeting to document compliance with applicable State and federal laws pertaining to the protection of native birds.

Potential indirect impacts could occur as a result of construction site runoff. These impacts may include accidental pollutant/chemical spills or discharge of materials from the use of concrete, oil/gas, water runoff, or on-site fueling stations. To minimize potential impacts to adjacent sensitive habitat and potential jurisdictional features, the following measure is recommended.

**MM-BIO-2 Erosion and Sediment Control Plan (ESCP).** Due to the Project impact of less than 1 acre, the Applicant shall prepare an ESCP to minimize the potential for discharge of pollutants during construction activities. The ESCP shall be designed to minimize erosion during construction, and it shall be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures, or permanent landscaping. The ESCP shall include both structural and non-structural BMPs, including straw wattles around storm drains, silt fencing, and/or other physical controls to divert flows from exposed soil, spill prevention methods, and clean housekeeping methods for storing and refueling machinery. The ESCP shall use BMPs designed to stabilize the site, protect natural watercourses/creeks, prevent erosion, and convey storm water runoff to existing drainage systems, keeping contaminants and sediments on-site.

As part of the ESCP, the contractor shall include specifications, installation requirements, and locations of appropriate BMPs to control sediment, coarse particles, concrete, and other materials exposed during construction. During construction activities, washing of concrete or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Washing will not be allowed in locations where the tainted water could enter storm drains.

There is a storm water conveyance swale located in the grassy field, south of the staging area. A 50-foot buffer is required from this feature. The southern boundary of the staging area will need appropriate BMPs, such as a silt fence, to protect storm water.

#### *Requirements and Timing*

The ESCP shall be submitted and approved prior to any ground disturbance. A County-approved ESCP is required in order to be issued a Grading Permit. ESCPs shall be developed by a professional knowledgeable in erosion and sediment control. It is recommended that a Certified Professional in Sediment and Erosion Control develop the ESCP. The responsible party shall designate an individual to be responsible for on-site installation, maintenance, and removal of ESCP measures. The ESCP requirements shall be implemented between November 1<sup>st</sup> and April 15<sup>th</sup> of each year, except pollution control measures, which shall be implemented year-round.

#### *Monitoring*

The contractor shall inspect BMPs regularly and prior to storm events. The contractor shall maintain BMPs in good condition at all times, and monitor the site's storm water measures, prior to the start of construction, as well as throughout the duration of construction, to ensure they continue to function properly.

### **3.5.2 Cultural Resources**

Substantial adverse change in the significance of a historical resource/archaeological resource is anticipated, pursuant to 14 CCR Section 15064.5.

**MM-CUL-1 Data Recovery.** Despite efforts to avoid significant intact cultural deposits, the proposed Project would impact cultural deposits of moderate density, and therefore, the Project has potential to adversely affect a unique archeological resource. As such, pursuant to CEQA, data recovery is required to be implemented according to following tasks:

A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, shall be retained to develop a data recovery program and research design prior to the data recovery efforts; they shall make provision for adequately recovering the scientifically consequential information from and about the resource. The program shall be prepared and adopted prior to any excavation being undertaken [CEQA Guidelines Section 15126.4(b)(3)(A)]. The data recovery plan shall include specific levels of effort and methods to obtain a statistically representative sample of significant archaeological deposits, as well as field and laboratory requirements, to ensure proper treatment of all materials, including documentation of results and curation of the archaeological collection. This plan shall be submitted to GSD for review prior to implementation.

Specifically, the data recovery plan shall, at the least, include the standards, guidelines, and performance criteria to ensure that the data recovery mitigation will be effective in "adequately recovering the scientifically consequential information from and about the historical resource," as stated in CEQA Guidelines Section 15126.4(b)(3)(C). The following are basic criteria, based on the California Office of Historic Preservation (OHP) Guidelines for Archaeological Research Designs (OHP 1991), from which a more detailed and comprehensive data recovery plan shall be formulated:

- Professional Qualifications – The data recovery plan shall be designed by a qualified archaeologist who meets the Secretary of Interior's Professional Qualifications for archaeology, including having at least 2 years documented supervisory experience in the study of prehistoric archaeological resources of the region.
- Research Design – The research design shall be developed to satisfy the requirement for public benefit that can be derived from the data recovery efforts. The design shall focus research on one or more important hypotheses that have been carefully constructed to address current data gaps, new models, theories, investigative and conservation techniques, and priority research areas identified by State or federal agencies (OHP 1991; National Park Service 2020). The design shall have the following requirements for its goals, pursuant to OHP guidelines: focus on important goals; be realistic and attainable; establish efficient methods to accomplish the goals; be understandable; provide a thorough and well-organized argument; and be concise and flexible.



- **Fieldwork, Laboratory, and Curation Methods** – The data recovery field methods shall be designed to recover the entire portion of the cultural resource (sandstone-lined well) that will be impacted as a result of the ground disturbance, plus a statistically significant assemblage of any surrounding resource deposit, sufficient to answer the research questions determined in the data recovery research design that the site is potentially capable of addressing.
- **Report Elements** – The data recovery efforts shall be thoroughly documented in a comprehensive report, including the following core elements: theoretical orientation; cultural context; definition of the formulated hypotheses presented in the original research design; all field, laboratory, and curation methods; results of research; implications of the results in light of current understanding; and its potential to contribute to future research and understanding.

**MM-CUL-2 Construction Monitoring Treatment Plan.** Impacts to cultural resources shall be minimized through implementation of pre- and post-construction tasks. Tasks pertaining to cultural resources include the development of a Construction Monitoring Treatment Plan. The purpose of the Plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases, as well as to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the Project. This Plan shall define the process to be followed for the identification and management of cultural resources in the Project area during construction. Existence of, and importance of, adherence to this Plan shall be stated on all Project site plans intended for use by those conducting the ground-disturbing activities.

**MM-CUL-3 Workers Environmental Awareness Program (WEAP) Training.** All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of ground-disturbing activities. A basic presentation shall be prepared and presented by a qualified archaeologist and Native American representative to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of, and legal basis for, the protection of significant archaeological resources. Each worker shall also be instructed on the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection and the immediate contact of the archaeological monitor (or if no monitor is present, senior archaeologist) and Native American monitor. The necessity of training attendance shall be stated on all Project site plans intended for use by those conducting the ground-disturbing activities.

**MM-CUL-4 Archaeological Monitoring.** A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards shall monitor all initial (first movement of soils within each ground disturbance location at complete horizontal and vertical extents) ground disturbances within the proposed Project site. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards

for a Principal Investigator shall oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue spot monitoring frequency), based on the observed potential for construction activities to encounter cultural deposits. The archaeological monitor shall be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist shall provide an archaeological monitoring report to the District and the CCIC with the results of the cultural monitoring program.

**MM-CUL-5 Inadvertent Discovery of Archaeological Resources.** In the event that archaeological resources (sites, features, or artifacts) are exposed during ground-disturbing activities for the Project, all construction work occurring within 50 feet of the find should immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA [14 CCR Section 15064.5(f); California PRC Section 21082], the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a tribal representative may be necessary.

If a discovery consists of possible human remains, the Santa Barbara County Coroner, the qualified archaeologist, and GSD shall be contacted immediately. If the Coroner determines that the remains are Native American, the Coroner shall contact the California NAHC, who will provide the name and contact information for the Most Likely Descendent (MLD). Treatment of the discovery shall be decided in consultation with the MLD provided by the NAHC. Additionally, a tribal representative shall be retained to monitor all further subsurface disturbance in the area of the find. In the event of the discovery of human remains, work in the area of discovery may only proceed after GSD grants authorization.

### **3.5.3 Geology and Soils**

**MM-GEO-1 Paleontological Resources Impact Mitigation Program and Paleontological Monitoring:** Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist, per the SVP (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed Project. The PRIMP shall be consistent with the SVP (2010) guidelines and outline requirements for pre-construction meeting attendance and worker environmental awareness training, where paleontological monitoring is required within the Project site, based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting, and a qualified paleontological monitor shall be on-site during initial rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, early Pleistocene to late Pliocene unnamed marine sedimentary units and Monterey Formation deposits. The qualified paleontological monitor shall also be on-site during initial grading depth of 5 feet below the ground surface, in areas underlain by Holocene estuarine deposits, to determine if they are old enough to preserve

scientifically significant paleontological resources. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

#### **3.5.4 Tribal Cultural Resources**

Impacts to TCRs listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k), and resources determined by the lead agency in its discretion and supported by substantial evidence pursuant to subdivision (c) of Section 5024.1, should be avoided if feasible and otherwise mitigated pursuant to subdivision (b) of Section 21084.3.

**MM-TCR-1 Workers Environmental Awareness Program.** All interested tribes that requested and participated in formal AB 52 consultation shall be notified by the GSD of the time and location of the WEAP training no later than 72 hours prior to its scheduled occurrence. GSD shall provide all interested consulting tribes access and opportunity to participate in the WEAP training.

**MM-TCR-2 Retention of a Native American Monitor.** Prior to any ground-disturbance activities, GSD shall contact any interested tribes with notification of the commencement of ground-disturbing activities, including archaeological excavations. The applicant shall make arrangements with the interested tribe(s) to enter into a Native American Monitoring Agreement with the intent of securing a total of one Native American monitor to be present during initial ground disturbance occurring from 1 foot above native soils and below. Initial ground disturbance is defined as initial construction-related earthmoving of sediments from their place of deposition; this includes archaeological investigations. As it pertains to cultural resource (archaeological or Native American) monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by current Project-related construction. The need for cultural resource monitoring (archaeological and Native American) will be determined by a qualified archaeological principal investigator meeting the Secretary of the Interior's Professional Qualification Standards for a Principal Investigator, in consultation with interested tribes who shall oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency), based on the observed potential for construction activities to encounter cultural deposits or material. More than one monitor may be required if multiple areas within the Project site are simultaneously exposed to initial ground disturbance, as previously defined in these mitigation measures, causing monitoring to be hindered by the distance of the simultaneous activities. The need for an additional monitor shall be determined by the qualified archaeological principal investigator meeting the Secretary of the Interior's Professional Qualification Standards in consultation with interested tribes. The Native American Monitoring Agreement(s) shall include, but not be limited to, outlining provisions and requirements for establishing on-site Native American monitoring for professional tribal monitors during initial ground disturbance, as defined above. If multiple interested tribes request to be present during initial ground-disturbing activities, each interested tribe will be provided access to the Project site when initial ground-disturbing activities are occurring and with a 48-hour notice. However, one interested tribe at a time will be monetarily

compensated for monitoring. If more than one interested tribe would like to be retained for monetary compensation, a schedule will be created to equally share the Native American monitoring duties.

**MM-TCR-3 Inadvertent Discovery of Tribal Cultural Resources.** In the event that TCRs (sites, features, or artifacts) are exposed during ground-disturbing activities for the Project, all construction work occurring within 50 feet of the find should immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find, in consultation with interested tribe(s) as appropriate, and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA [14 CCR Section 15064.5(f); California PRC Section 21082], the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a tribal representative may be necessary. If a discovery consists of possible human remains, the Santa Barbara County Coroner shall be contacted immediately, as well as the qualified archaeological Principal Investigator and GSD. If the Coroner determines that the remains are Native American, the Coroner shall contact the California NAHC, who will provide the name and contact information for the MLD. Treatment of the discovery shall be decided in consultation with the MLD provided by the NAHC. Additionally, a tribal representative shall be retained to monitor all further subsurface disturbance in the area of the find. In the event of the discovery of human remains, work in the area of discovery may only proceed after GSD grants authorization.

### ***3.5.5 Utilities and Service Systems***

**MM-UTIL-1 Solid Waste Diversion from Landfill.** GSD will ensure that the construction contractor does not dispose of greater than 350 tons of solid waste in any California landfill. The contractor may exceed 350 tons only if they receive written permission from a landfill (for example, if the landfill wants soils for barrier layers), or if they complete a solid waste mitigation plan that is approved by the Santa Barbara County Public Works Department (or another regional agency, if authorized to do so). Since this is a requirement placed on the construction contractor, GSD will enforce this through a contract mechanism or other legally binding requirement.

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## **APPENDIX A1 – CALEEMOD OUTPUTS**



# GSD- Solids Handling Improvement Project Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value                                    |
|-----------------------------|------------------------------------------|
| Project Name                | GSD- Solids Handling Improvement Project |
| Construction Start Date     | 3/2/2026                                 |
| Operational Year            | 2028                                     |
| Lead Agency                 | —                                        |
| Land Use Scale              | Project/site                             |
| Analysis Level for Defaults | County                                   |
| Windspeed (m/s)             | 2.40                                     |
| Precipitation (days)        | 24.0                                     |
| Location                    | 34.4220519851653, -119.83333096398727    |
| County                      | Santa Barbara                            |
| City                        | Unincorporated                           |
| Air District                | Santa Barbara County APCD                |
| Air Basin                   | South Central Coast                      |
| TAZ                         | 3370                                     |
| EDFZ                        | 8                                        |
| Electric Utility            | Southern California Edison               |
| Gas Utility                 | Southern California Gas                  |
| App Version                 | 2022.1.1.29                              |

## 1.2. Land Use Types

| Land Use Subtype       | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| General Heavy Industry | 17.5 | 1000sqft | 0.40        | 17,500                | 0.00                   | —                              | —          | —           |

|                         |      |                   |      |      |      |   |   |                |
|-------------------------|------|-------------------|------|------|------|---|---|----------------|
| Other Asphalt Surfaces  | 52.5 | 1000sqft          | 1.21 | 0.00 | 0.00 | — | — | —              |
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0.00 | — | — | Sludge Hauling |
| User Defined Linear     | 0.15 | Mile              | 0.65 | 0.00 | 0.00 | — | — | Gas line       |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 21.2 | 33.9 | 26.4 | 0.11 | 1.00  | 5.98  | 6.98  | 0.87   | 2.27   | 3.14   | —    | 15,128 | 15,128 | 0.75 | 1.81 | 21.8 | 15,657 |
| Daily, Winter (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 1.63 | 22.0 | 17.1 | 0.09 | 0.58  | 2.97  | 3.45  | 0.53   | 0.83   | 1.22   | —    | 13,338 | 13,338 | 0.67 | 1.81 | 0.57 | 13,896 |
| Average Daily (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 1.38 | 11.4 | 7.95 | 0.04 | 0.30  | 1.57  | 1.87  | 0.26   | 0.52   | 0.77   | —    | 5,718  | 5,718  | 0.28 | 0.70 | 3.61 | 5,936  |
| Annual (Max)        | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.25 | 2.07 | 1.45 | 0.01 | 0.05  | 0.29  | 0.34  | 0.05   | 0.09   | 0.14   | —    | 947    | 947    | 0.05 | 0.12 | 0.60 | 983    |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|----------------------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily - Summer (Max) | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| 2026                 | 2.49 | 33.9 | 26.4 | 0.11    | 1.00  | 5.98  | 6.98  | 0.87   | 2.27   | 3.14   | —    | 15,128 | 15,128 | 0.75 | 1.81 | 21.8 | 15,657 |
| 2027                 | 21.2 | 20.7 | 12.1 | 0.09    | 0.40  | 2.97  | 3.36  | 0.38   | 0.83   | 1.21   | —    | 13,084 | 13,084 | 0.67 | 1.81 | 20.0 | 13,661 |
| Daily - Winter (Max) | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| 2026                 | 1.63 | 22.0 | 17.1 | 0.09    | 0.58  | 2.97  | 3.45  | 0.53   | 0.83   | 1.22   | —    | 13,338 | 13,338 | 0.67 | 1.81 | 0.57 | 13,896 |
| 2027                 | 0.95 | 21.1 | 12.1 | 0.09    | 0.40  | 2.97  | 3.36  | 0.38   | 0.83   | 1.21   | —    | 13,085 | 13,085 | 0.67 | 1.81 | 0.52 | 13,642 |
| Average Daily        | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| 2026                 | 0.70 | 11.4 | 7.95 | 0.04    | 0.30  | 1.57  | 1.87  | 0.26   | 0.52   | 0.77   | —    | 5,718  | 5,718  | 0.28 | 0.70 | 3.61 | 5,936  |
| 2027                 | 1.38 | 4.61 | 2.80 | 0.02    | 0.09  | 0.61  | 0.70  | 0.08   | 0.17   | 0.26   | —    | 2,769  | 2,769  | 0.14 | 0.38 | 1.80 | 2,887  |
| Annual               | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| 2026                 | 0.13 | 2.07 | 1.45 | 0.01    | 0.05  | 0.29  | 0.34  | 0.05   | 0.09   | 0.14   | —    | 947    | 947    | 0.05 | 0.12 | 0.60 | 983    |
| 2027                 | 0.25 | 0.84 | 0.51 | < 0.005 | 0.02  | 0.11  | 0.13  | 0.02   | 0.03   | 0.05   | —    | 459    | 459    | 0.02 | 0.06 | 0.30 | 478    |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Unmit.              | 1.05 | 1.89 | 3.51 | 0.02 | 0.04  | 0.78  | 0.82  | 0.04   | 0.20   | 0.24   | 20.3 | 2,236 | 2,256 | 1.32 | 0.24 | 8.20 | 2,370 |
| Daily, Winter (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Unmit.              | 0.93 | 1.94 | 2.90 | 0.02 | 0.04  | 0.78  | 0.82  | 0.04   | 0.20   | 0.24   | 20.3 | 2,226 | 2,246 | 1.33 | 0.24 | 4.65 | 2,357 |

|                     |      |      |      |         |         |      |      |         |      |      |      |       |       |      |      |      |       |
|---------------------|------|------|------|---------|---------|------|------|---------|------|------|------|-------|-------|------|------|------|-------|
| Average Daily (Max) | —    | —    | —    | —       | —       | —    | —    | —       | —    | —    | —    | —     | —     | —    | —    | —    | —     |
| Unmit.              | 0.85 | 0.82 | 2.21 | 0.01    | 0.02    | 0.40 | 0.42 | 0.02    | 0.10 | 0.13 | 20.3 | 1,194 | 1,214 | 1.27 | 0.10 | 5.28 | 1,280 |
| Annual (Max)        | —    | —    | —    | —       | —       | —    | —    | —       | —    | —    | —    | —     | —     | —    | —    | —    | —     |
| Unmit.              | 0.16 | 0.15 | 0.40 | < 0.005 | < 0.005 | 0.07 | 0.08 | < 0.005 | 0.02 | 0.02 | 3.37 | 198   | 201   | 0.21 | 0.02 | 0.87 | 212   |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|---------------------|------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|------|-------|
| Daily, Summer (Max) | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Mobile              | 0.42 | 1.68 | 2.58 | 0.02    | 0.02    | 0.78  | 0.80    | 0.02    | 0.20   | 0.22    | —    | 1,724 | 1,724 | 0.09    | 0.22    | 3.65 | 1,796 |
| Area                | 0.62 | 0.01 | 0.76 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 3.13  | 3.13  | < 0.005 | < 0.005 | —    | 3.14  |
| Energy              | 0.01 | 0.20 | 0.17 | < 0.005 | 0.02    | —     | 0.02    | 0.02    | —      | 0.02    | —    | 476   | 476   | 0.04    | < 0.005 | —    | 478   |
| Water               | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | 8.65 | 31.9  | 40.6  | 0.03    | 0.02    | —    | 47.1  |
| Waste               | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | 11.7 | 0.00  | 11.7  | 1.17    | 0.00    | —    | 40.9  |
| Refrig.             | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | 4.56 | 4.56  |
| Total               | 1.05 | 1.89 | 3.51 | 0.02    | 0.04    | 0.78  | 0.82    | 0.04    | 0.20   | 0.24    | 20.3 | 2,236 | 2,256 | 1.32    | 0.24    | 8.20 | 2,370 |
| Daily, Winter (Max) | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Mobile              | 0.42 | 1.74 | 2.73 | 0.02    | 0.02    | 0.78  | 0.80    | 0.02    | 0.20   | 0.22    | —    | 1,717 | 1,717 | 0.09    | 0.22    | 0.09 | 1,786 |
| Area                | 0.49 | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Energy              | 0.01 | 0.20 | 0.17 | < 0.005 | 0.02    | —     | 0.02    | 0.02    | —      | 0.02    | —    | 476   | 476   | 0.04    | < 0.005 | —    | 478   |
| Water               | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | 8.65 | 31.9  | 40.6  | 0.03    | 0.02    | —    | 47.1  |
| Waste               | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | 11.7 | 0.00  | 11.7  | 1.17    | 0.00    | —    | 40.9  |
| Refrig.             | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | 4.56 | 4.56  |
| Total               | 0.93 | 1.94 | 2.90 | 0.02    | 0.04    | 0.78  | 0.82    | 0.04    | 0.20   | 0.24    | 20.3 | 2,226 | 2,246 | 1.33    | 0.24    | 4.65 | 2,357 |

|               |         |         |      |         |         |      |         |         |      |         |      |       |       |         |         |      |       |
|---------------|---------|---------|------|---------|---------|------|---------|---------|------|---------|------|-------|-------|---------|---------|------|-------|
| Average Daily | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | —    | —     | —     | —       | —       | —    | —     |
| Mobile        | 0.28    | 0.61    | 1.67 | 0.01    | 0.01    | 0.40 | 0.40    | 0.01    | 0.10 | 0.11    | —    | 684   | 684   | 0.04    | 0.07    | 0.73 | 708   |
| Area          | 0.56    | < 0.005 | 0.38 | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | < 0.005 | —    | 1.54  | 1.54  | < 0.005 | < 0.005 | —    | 1.55  |
| Energy        | 0.01    | 0.20    | 0.17 | < 0.005 | 0.02    | —    | 0.02    | 0.02    | —    | 0.02    | —    | 476   | 476   | 0.04    | < 0.005 | —    | 478   |
| Water         | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | 8.65 | 31.9  | 40.6  | 0.03    | 0.02    | —    | 47.1  |
| Waste         | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | 11.7 | 0.00  | 11.7  | 1.17    | 0.00    | —    | 40.9  |
| Refrig.       | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | —    | —     | —     | —       | —       | 4.56 | 4.56  |
| Total         | 0.85    | 0.82    | 2.21 | 0.01    | 0.02    | 0.40 | 0.42    | 0.02    | 0.10 | 0.13    | 20.3 | 1,194 | 1,214 | 1.27    | 0.10    | 5.28 | 1,280 |
| Annual        | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | —    | —     | —     | —       | —       | —    | —     |
| Mobile        | 0.05    | 0.11    | 0.30 | < 0.005 | < 0.005 | 0.07 | 0.07    | < 0.005 | 0.02 | 0.02    | —    | 113   | 113   | 0.01    | 0.01    | 0.12 | 117   |
| Area          | 0.10    | < 0.005 | 0.07 | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | < 0.005 | —    | 0.26  | 0.26  | < 0.005 | < 0.005 | —    | 0.26  |
| Energy        | < 0.005 | 0.04    | 0.03 | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | < 0.005 | —    | 78.9  | 78.9  | 0.01    | < 0.005 | —    | 79.1  |
| Water         | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | 1.43 | 5.28  | 6.72  | 0.01    | < 0.005 | —    | 7.79  |
| Waste         | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | 1.94 | 0.00  | 1.94  | 0.19    | 0.00    | —    | 6.77  |
| Refrig.       | —       | —       | —    | —       | —       | —    | —       | —       | —    | —       | —    | —     | —     | —       | —       | 0.75 | 0.75  |
| Total         | 0.16    | 0.15    | 0.40 | < 0.005 | < 0.005 | 0.07 | 0.08    | < 0.005 | 0.02 | 0.02    | 3.37 | 198   | 201   | 0.21    | 0.02    | 0.87 | 212   |

## 3. Construction Emissions Details

### 3.1. Linear (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|---------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite              | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment  | 2.29 | 20.8 | 24.6 | 0.04 | 0.86  | —     | 0.86  | 0.80   | —      | 0.80   | —    | 4,665 | 4,665 | 0.19 | 0.04 | — | 4,681 |

|                             |      |      |      |         |      |      |      |         |      |         |   |      |      |         |         |      |      |
|-----------------------------|------|------|------|---------|------|------|------|---------|------|---------|---|------|------|---------|---------|------|------|
| Dust From Material Movement | —    | —    | —    | —       | —    | 2.87 | 2.87 | —       | 1.48 | 1.48    | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Daily, Winter (Max)         | —    | —    | —    | —       | —    | —    | —    | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Average Daily               | —    | —    | —    | —       | —    | —    | —    | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment          | 0.08 | 0.68 | 0.81 | < 0.005 | 0.03 | —    | 0.03 | 0.03    | —    | 0.03    | — | 153  | 153  | 0.01    | < 0.005 | —    | 154  |
| Dust From Material Movement | —    | —    | —    | —       | —    | 0.09 | 0.09 | —       | 0.05 | 0.05    | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                      | —    | —    | —    | —       | —    | —    | —    | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment          | 0.01 | 0.12 | 0.15 | < 0.005 | 0.01 | —    | 0.01 | < 0.005 | —    | < 0.005 | — | 25.4 | 25.4 | < 0.005 | < 0.005 | —    | 25.5 |
| Dust From Material Movement | —    | —    | —    | —       | —    | 0.02 | 0.02 | —       | 0.01 | 0.01    | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                     | —    | —    | —    | —       | —    | —    | —    | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)         | —    | —    | —    | —       | —    | —    | —    | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                      | 0.08 | 0.06 | 0.69 | 0.00    | 0.00 | 0.12 | 0.12 | 0.00    | 0.03 | 0.03    | — | 123  | 123  | 0.01    | 0.01    | 0.52 | 126  |
| Vendor                      | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling                     | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |



|                     |         |         |         |      |      |         |         |      |         |         |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|------|------|---------|---------|------|---------|---------|---|------|------|---------|---------|---------|------|
| Daily, Winter (Max) | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | 0.02    | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.97 | 3.97 | < 0.005 | < 0.005 | 0.01    | 4.04 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.66 | 0.66 | < 0.005 | < 0.005 | < 0.005 | 0.67 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.3. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 1.57 | 14.6 | 16.4 | 0.03 | 0.57  | —     | 0.57  | 0.53   | —      | 0.53   | —    | 2,806 | 2,806 | 0.11 | 0.02 | —    | 2,815 |
| Demolition          | —    | —    | —    | —    | —     | 0.37  | 0.37  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 1.57 | 14.6 | 16.4 | 0.03 | 0.57  | —     | 0.57  | 0.53   | —      | 0.53   | —    | 2,806 | 2,806 | 0.11 | 0.02 | —    | 2,815 |

|                     |      |      |      |         |      |         |         |      |         |         |   |      |      |         |         |      |      |
|---------------------|------|------|------|---------|------|---------|---------|------|---------|---------|---|------|------|---------|---------|------|------|
| Demolition          | —    | —    | —    | —       | —    | 0.37    | 0.37    | —    | 0.06    | 0.06    | — | —    | —    | —       | —       | —    | —    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily       | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment  | 0.09 | 0.80 | 0.90 | < 0.005 | 0.03 | —       | 0.03    | 0.03 | —       | 0.03    | — | 154  | 154  | 0.01    | < 0.005 | —    | 154  |
| Demolition          | —    | —    | —    | —       | —    | 0.02    | 0.02    | —    | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment  | 0.02 | 0.15 | 0.16 | < 0.005 | 0.01 | —       | 0.01    | 0.01 | —       | 0.01    | — | 25.5 | 25.5 | < 0.005 | < 0.005 | —    | 25.5 |
| Demolition          | —    | —    | —    | —       | —    | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite             | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max) | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.05 | 0.04 | 0.43 | 0.00    | 0.00 | 0.08    | 0.08    | 0.00 | 0.02    | 0.02    | — | 77.0 | 77.0 | < 0.005 | < 0.005 | 0.32 | 78.5 |
| Vendor              | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling             | 0.01 | 0.66 | 0.23 | < 0.005 | 0.01 | 0.12    | 0.13    | 0.01 | 0.03    | 0.04    | — | 488  | 488  | 0.03    | 0.08    | 0.90 | 512  |
| Daily, Winter (Max) | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.05 | 0.04 | 0.44 | 0.00    | 0.00 | 0.08    | 0.08    | 0.00 | 0.02    | 0.02    | — | 75.4 | 75.4 | < 0.005 | < 0.005 | 0.01 | 76.6 |
| Vendor              | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling             | 0.01 | 0.68 | 0.23 | < 0.005 | 0.01 | 0.12    | 0.13    | 0.01 | 0.03    | 0.04    | — | 488  | 488  | 0.03    | 0.08    | 0.02 | 511  |
| Average Daily       | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |

|         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Worker  | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 4.14 | 4.14 | < 0.005 | < 0.005 | 0.01    | 4.21 |
| Vendor  | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling | < 0.005 | 0.04    | 0.01    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 26.7 | 26.7 | < 0.005 | < 0.005 | 0.02    | 28.0 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker  | < 0.005 | < 0.005 | < 0.005 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 0.69 | 0.69 | < 0.005 | < 0.005 | < 0.005 | 0.70 |
| Vendor  | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 4.43 | 4.43 | < 0.005 | < 0.005 | < 0.005 | 4.64 |

### 3.5. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                             | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |
|--------------------------------------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite                               | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily,<br>Summer<br>(Max)            | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road<br>Equipment                | 2.20 | 19.8 | 21.0 | 0.04    | 0.81  | —     | 0.81  | 0.75   | —      | 0.75   | —    | 4,726 | 4,726 | 0.19 | 0.04    | —    | 4,743 |
| Dust<br>From<br>Material<br>Movement | —    | —    | —    | —       | —     | 3.29  | 3.29  | —      | 1.52   | 1.52   | —    | —     | —     | —    | —       | —    | —     |
| Onsite<br>truck                      | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily,<br>Winter<br>(Max)            | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Average<br>Daily                     | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road<br>Equipment                | 0.22 | 1.95 | 2.07 | < 0.005 | 0.08  | —     | 0.08  | 0.07   | —      | 0.07   | —    | 466   | 466   | 0.02 | < 0.005 | —    | 468   |

|                             |         |         |         |         |         |         |         |         |         |         |   |        |        |         |         |         |        |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|--------|--------|---------|---------|---------|--------|
| Dust From Material Movement | —       | —       | —       | —       | —       | 0.32    | 0.32    | —       | 0.15    | 0.15    | — | —      | —      | —       | —       | —       | —      |
| Onsite truck                | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00   |
| Annual                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Off-Road Equipment          | 0.04    | 0.36    | 0.38    | < 0.005 | 0.01    | —       | 0.01    | 0.01    | —       | 0.01    | — | 77.2   | 77.2   | < 0.005 | < 0.005 | —       | 77.4   |
| Dust From Material Movement | —       | —       | —       | —       | —       | 0.06    | 0.06    | —       | 0.03    | 0.03    | — | —      | —      | —       | —       | —       | —      |
| Onsite truck                | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00   |
| Offsite                     | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Daily, Summer (Max)         | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                      | 0.07    | 0.05    | 0.60    | 0.00    | 0.00    | 0.11    | 0.11    | 0.00    | 0.03    | 0.03    | — | 108    | 108    | 0.01    | < 0.005 | 0.45    | 110    |
| Vendor                      | < 0.005 | 0.16    | 0.07    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 105    | 105    | < 0.005 | 0.01    | 0.25    | 109    |
| Hauling                     | 0.21    | 13.9    | 4.71    | 0.07    | 0.19    | 2.55    | 2.74    | 0.12    | 0.72    | 0.84    | — | 10,189 | 10,189 | 0.54    | 1.59    | 18.8    | 10,695 |
| Daily, Winter (Max)         | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Average Daily               | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                      | 0.01    | 0.01    | 0.06    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | < 0.005 | < 0.005 | — | 10.4   | 10.4   | < 0.005 | < 0.005 | 0.02    | 10.6   |
| Vendor                      | < 0.005 | 0.02    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 10.3   | 10.3   | < 0.005 | < 0.005 | 0.01    | 10.8   |
| Hauling                     | 0.02    | 1.42    | 0.47    | 0.01    | 0.02    | 0.25    | 0.27    | 0.01    | 0.07    | 0.08    | — | 1,005  | 1,005  | 0.05    | 0.16    | 0.80    | 1,054  |
| Annual                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                      | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 1.73   | 1.73   | < 0.005 | < 0.005 | < 0.005 | 1.76   |
| Vendor                      | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.71   | 1.71   | < 0.005 | < 0.005 | < 0.005 | 1.78   |
| Hauling                     | < 0.005 | 0.26    | 0.09    | < 0.005 | < 0.005 | 0.05    | 0.05    | < 0.005 | 0.01    | 0.01    | — | 166    | 166    | 0.01    | 0.03    | 0.13    | 174    |

## 3.7. Building Construction A (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|---------------------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|---------|---------|------|-------|
| Onsite              | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.75 | 6.85 | 7.34 | 0.02    | 0.27  | —     | 0.27  | 0.25   | —      | 0.25   | —    | 1,750 | 1,750 | 0.07    | 0.01    | —    | 1,756 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.75 | 6.85 | 7.34 | 0.02    | 0.27  | —     | 0.27  | 0.25   | —      | 0.25   | —    | 1,750 | 1,750 | 0.07    | 0.01    | —    | 1,756 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.22 | 2.00 | 2.14 | < 0.005 | 0.08  | —     | 0.08  | 0.07   | —      | 0.07   | —    | 510   | 510   | 0.02    | < 0.005 | —    | 511   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.04 | 0.36 | 0.39 | < 0.005 | 0.01  | —     | 0.01  | 0.01   | —      | 0.01   | —    | 84.4  | 84.4  | < 0.005 | < 0.005 | —    | 84.7  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |

|                           |         |         |         |         |         |         |         |         |         |         |   |        |        |         |         |         |        |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|--------|--------|---------|---------|---------|--------|
| Worker                    | 0.03    | 0.02    | 0.25    | 0.00    | 0.00    | 0.05    | 0.05    | 0.00    | 0.01    | 0.01    | — | 45.3   | 45.3   | < 0.005 | < 0.005 | 0.19    | 46.2   |
| Vendor                    | < 0.005 | 0.16    | 0.07    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 105    | 105    | < 0.005 | 0.01    | 0.25    | 109    |
| Hauling                   | 0.19    | 14.6    | 4.63    | 0.07    | 0.21    | 2.89    | 3.11    | 0.14    | 0.81    | 0.95    | — | 11,437 | 11,437 | 0.59    | 1.78    | 21.4    | 12,004 |
| Daily,<br>Winter<br>(Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                    | 0.03    | 0.02    | 0.26    | 0.00    | 0.00    | 0.05    | 0.05    | 0.00    | 0.01    | 0.01    | — | 44.4   | 44.4   | < 0.005 | < 0.005 | < 0.005 | 45.0   |
| Vendor                    | < 0.005 | 0.17    | 0.08    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 105    | 105    | < 0.005 | 0.01    | 0.01    | 109    |
| Hauling                   | 0.19    | 15.0    | 4.66    | 0.07    | 0.21    | 2.89    | 3.11    | 0.14    | 0.81    | 0.95    | — | 11,439 | 11,439 | 0.59    | 1.78    | 0.55    | 11,985 |
| Average<br>Daily          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                    | 0.01    | 0.01    | 0.07    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | < 0.005 | < 0.005 | — | 12.9   | 12.9   | < 0.005 | < 0.005 | 0.02    | 13.2   |
| Vendor                    | < 0.005 | 0.05    | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 30.5   | 30.5   | < 0.005 | < 0.005 | 0.03    | 31.8   |
| Hauling                   | 0.06    | 4.40    | 1.35    | 0.02    | 0.06    | 0.83    | 0.89    | 0.04    | 0.23    | 0.27    | — | 3,331  | 3,331  | 0.17    | 0.52    | 2.69    | 3,492  |
| Annual                    | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker                    | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 2.14   | 2.14   | < 0.005 | < 0.005 | < 0.005 | 2.18   |
| Vendor                    | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 5.05   | 5.05   | < 0.005 | < 0.005 | 0.01    | 5.27   |
| Hauling                   | 0.01    | 0.80    | 0.25    | < 0.005 | 0.01    | 0.15    | 0.16    | 0.01    | 0.04    | 0.05    | — | 551    | 551    | 0.03    | 0.09    | 0.45    | 578    |

### 3.9. Building Construction A (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily,<br>Summer<br>(Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road<br>Equipment     | 0.73 | 6.56 | 7.32 | 0.02 | 0.25  | —     | 0.25  | 0.23   | —      | 0.23   | —    | 1,750 | 1,750 | 0.07 | 0.01 | —    | 1,756 |
| Onsite<br>truck           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |



|                     |         |         |      |         |         |      |      |         |         |         |   |        |        |         |         |         |        |
|---------------------|---------|---------|------|---------|---------|------|------|---------|---------|---------|---|--------|--------|---------|---------|---------|--------|
| Daily, Winter (Max) | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Off-Road Equipment  | 0.73    | 6.56    | 7.32 | 0.02    | 0.25    | —    | 0.25 | 0.23    | —       | 0.23    | — | 1,750  | 1,750  | 0.07    | 0.01    | —       | 1,756  |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00   |
| Average Daily       | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Off-Road Equipment  | 0.15    | 1.36    | 1.51 | < 0.005 | 0.05    | —    | 0.05 | 0.05    | —       | 0.05    | — | 362    | 362    | 0.01    | < 0.005 | —       | 363    |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00   |
| Annual              | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Off-Road Equipment  | 0.03    | 0.25    | 0.28 | < 0.005 | 0.01    | —    | 0.01 | 0.01    | —       | 0.01    | — | 59.9   | 59.9   | < 0.005 | < 0.005 | —       | 60.1   |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00   |
| Offsite             | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Daily, Summer (Max) | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker              | 0.03    | 0.02    | 0.24 | 0.00    | 0.00    | 0.05 | 0.05 | 0.00    | 0.01    | 0.01    | — | 44.4   | 44.4   | < 0.005 | < 0.005 | 0.17    | 45.3   |
| Vendor              | < 0.005 | 0.15    | 0.07 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01    | 0.01    | — | 102    | 102    | < 0.005 | 0.01    | 0.23    | 107    |
| Hauling             | 0.19    | 14.0    | 4.49 | 0.07    | 0.14    | 2.89 | 3.04 | 0.14    | 0.81    | 0.95    | — | 11,187 | 11,187 | 0.59    | 1.78    | 19.6    | 11,752 |
| Daily, Winter (Max) | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker              | 0.03    | 0.02    | 0.24 | 0.00    | 0.00    | 0.05 | 0.05 | 0.00    | 0.01    | 0.01    | — | 43.5   | 43.5   | < 0.005 | < 0.005 | < 0.005 | 44.2   |
| Vendor              | < 0.005 | 0.16    | 0.07 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01    | 0.01    | — | 103    | 103    | < 0.005 | 0.01    | 0.01    | 107    |
| Hauling             | 0.19    | 14.4    | 4.51 | 0.07    | 0.14    | 2.89 | 3.04 | 0.14    | 0.81    | 0.95    | — | 11,189 | 11,189 | 0.59    | 1.78    | 0.51    | 11,735 |
| Average Daily       | —       | —       | —    | —       | —       | —    | —    | —       | —       | —       | — | —      | —      | —       | —       | —       | —      |
| Worker              | 0.01    | < 0.005 | 0.05 | 0.00    | 0.00    | 0.01 | 0.01 | 0.00    | < 0.005 | < 0.005 | — | 9.01   | 9.01   | < 0.005 | < 0.005 | 0.02    | 9.16   |

|         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |         |       |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|---------|-------|
| Vendor  | < 0.005 | 0.03    | 0.01    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 21.2  | 21.2  | < 0.005 | < 0.005 | 0.02    | 22.1  |
| Hauling | 0.04    | 2.99    | 0.93    | 0.01    | 0.03    | 0.59    | 0.62    | 0.03    | 0.17    | 0.20    | — | 2,312 | 2,312 | 0.12    | 0.37    | 1.75    | 2,427 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker  | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 1.49  | 1.49  | < 0.005 | < 0.005 | < 0.005 | 1.52  |
| Vendor  | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.51  | 3.51  | < 0.005 | < 0.005 | < 0.005 | 3.66  |
| Hauling | 0.01    | 0.55    | 0.17    | < 0.005 | 0.01    | 0.11    | 0.11    | 0.01    | 0.03    | 0.04    | — | 383   | 383   | 0.02    | 0.06    | 0.29    | 402   |

### 3.11. Building Construction B (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | ROG     | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|---------------------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|------|-------|
| Onsite              | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.55    | 5.30 | 6.29 | 0.01    | 0.21    | —     | 0.21    | 0.19    | —      | 0.19    | —    | 1,561 | 1,561 | 0.06    | 0.01    | —    | 1,566 |
| Onsite truck        | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Average Daily       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.02    | 0.15 | 0.17 | < 0.005 | 0.01    | —     | 0.01    | 0.01    | —      | 0.01    | —    | 42.8  | 42.8  | < 0.005 | < 0.005 | —    | 42.9  |
| Onsite truck        | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 7.08  | 7.08  | < 0.005 | < 0.005 | —    | 7.10  |
| Onsite truck        | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

|                     |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Offsite             | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | 0.03    | 0.02    | 0.24    | 0.00    | 0.00    | 0.05    | 0.05    | 0.00    | 0.01    | 0.01    | — | 44.4 | 44.4 | < 0.005 | < 0.005 | 0.17    | 45.3 |
| Vendor              | < 0.005 | 0.15    | 0.07    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 102  | 102  | < 0.005 | 0.01    | 0.23    | 107  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 1.19 | 1.19 | < 0.005 | < 0.005 | < 0.005 | 1.21 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.81 | 2.81 | < 0.005 | < 0.005 | < 0.005 | 2.93 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.20 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.46 | 0.46 | < 0.005 | < 0.005 | < 0.005 | 0.49 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.13. Building Construction C (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R    | CO2e |
|---------------------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|------|------|
| Onsite              | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Daily, Summer (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |

|                     |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Offsite             | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | 0.03    | 0.02    | 0.24    | 0.00    | 0.00    | 0.05    | 0.05    | 0.00    | 0.01    | 0.01    | — | 44.4 | 44.4 | < 0.005 | < 0.005 | 0.17    | 45.3 |
| Vendor              | < 0.005 | 0.15    | 0.07    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 102  | 102  | < 0.005 | 0.01    | 0.23    | 107  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 1.19 | 1.19 | < 0.005 | < 0.005 | < 0.005 | 1.21 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.81 | 2.81 | < 0.005 | < 0.005 | < 0.005 | 2.93 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 0.20 | 0.20 | < 0.005 | < 0.005 | < 0.005 | 0.20 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.46 | 0.46 | < 0.005 | < 0.005 | < 0.005 | 0.49 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.15. Building Construction D (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Offsite             | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | 0.03    | 0.02    | 0.24    | 0.00    | 0.00    | 0.05    | 0.05    | 0.00    | 0.01    | 0.01    | — | 44.4 | 44.4 | < 0.005 | < 0.005 | 0.17    | 45.3 |
| Vendor              | < 0.005 | 0.15    | 0.07    | < 0.005 | < 0.005 | 0.03    | 0.03    | < 0.005 | 0.01    | 0.01    | — | 102  | 102  | < 0.005 | 0.01    | 0.23    | 107  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 0.60 | 0.60 | < 0.005 | < 0.005 | < 0.005 | 0.61 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.40 | 1.40 | < 0.005 | < 0.005 | < 0.005 | 1.47 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | < 0.005 | < 0.005 | — | 0.10 | 0.10 | < 0.005 | < 0.005 | < 0.005 | 0.10 |
| Vendor              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.23 | 0.23 | < 0.005 | < 0.005 | < 0.005 | 0.24 |

|         |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|

### 3.17. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                | ROG     | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|-------------------------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|------|---------|---------|------|------|
| Onsite                  | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Daily, Summer (Max)     | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment      | 0.17    | 1.25 | 1.69 | < 0.005 | 0.03    | —     | 0.03    | 0.03    | —      | 0.03    | —    | 200   | 200  | 0.01    | < 0.005 | —    | 201  |
| Architect ural Coatings | 21.0    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Onsite truck            | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Daily, Winter (Max)     | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Average Daily           | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment      | 0.01    | 0.07 | 0.09 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 11.0  | 11.0 | < 0.005 | < 0.005 | —    | 11.0 |
| Architect ural Coatings | 1.15    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Onsite truck            | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                  | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment      | < 0.005 | 0.01 | 0.02 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 1.82  | 1.82 | < 0.005 | < 0.005 | —    | 1.82 |
| Architect ural Coatings | 0.21    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |

|                     |         |         |         |      |      |         |         |      |         |         |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|------|------|---------|---------|------|---------|---------|---|------|------|---------|---------|---------|------|
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Offsite             | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max) | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | 0.02    | 0.02    | 0.19    | 0.00 | 0.00 | 0.04    | 0.04    | 0.00 | 0.01    | 0.01    | — | 35.6 | 35.6 | < 0.005 | < 0.005 | 0.14    | 36.2 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | 0.01    | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.91 | 1.91 | < 0.005 | < 0.005 | < 0.005 | 1.94 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —    | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.32 | 0.32 | < 0.005 | < 0.005 | < 0.005 | 0.32 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|



|                         |         |      |      |         |         |      |      |         |         |      |   |       |       |         |         |      |       |
|-------------------------|---------|------|------|---------|---------|------|------|---------|---------|------|---|-------|-------|---------|---------|------|-------|
| Daily, Summer (Max)     | —       | —    | —    | —       | —       | —    | —    | —       | —       | —    | — | —     | —     | —       | —       | —    | —     |
| General Heavy Industry  | 0.41    | 0.26 | 2.16 | < 0.005 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11    | 0.11 | — | 481   | 481   | 0.03    | 0.02    | 1.59 | 490   |
| Other Asphalt Surfaces  | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| User Defined Industrial | 0.02    | 1.43 | 0.42 | 0.01    | 0.02    | 0.34 | 0.36 | 0.02    | 0.09    | 0.11 | — | 1,244 | 1,244 | 0.06    | 0.20    | 2.06 | 1,306 |
| Total                   | 0.42    | 1.68 | 2.58 | 0.02    | 0.02    | 0.78 | 0.80 | 0.02    | 0.20    | 0.22 | — | 1,724 | 1,724 | 0.09    | 0.22    | 3.65 | 1,796 |
| Daily, Winter (Max)     | —       | —    | —    | —       | —       | —    | —    | —       | —       | —    | — | —     | —     | —       | —       | —    | —     |
| General Heavy Industry  | 0.41    | 0.28 | 2.31 | < 0.005 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11    | 0.11 | — | 474   | 474   | 0.03    | 0.03    | 0.04 | 482   |
| Other Asphalt Surfaces  | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| User Defined Industrial | 0.02    | 1.46 | 0.42 | 0.01    | 0.02    | 0.34 | 0.36 | 0.02    | 0.09    | 0.11 | — | 1,244 | 1,244 | 0.06    | 0.20    | 0.05 | 1,304 |
| Total                   | 0.42    | 1.74 | 2.73 | 0.02    | 0.02    | 0.78 | 0.80 | 0.02    | 0.20    | 0.22 | — | 1,717 | 1,717 | 0.09    | 0.22    | 0.09 | 1,786 |
| Annual                  | —       | —    | —    | —       | —       | —    | —    | —       | —       | —    | — | —     | —     | —       | —       | —    | —     |
| General Heavy Industry  | 0.05    | 0.04 | 0.28 | < 0.005 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01    | 0.01 | — | 54.4  | 54.4  | < 0.005 | < 0.005 | 0.08 | 55.4  |
| Other Asphalt Surfaces  | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| User Defined Industrial | < 0.005 | 0.08 | 0.02 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | 0.01 | — | 58.8  | 58.8  | < 0.005 | 0.01    | 0.04 | 61.7  |
| Total                   | 0.05    | 0.11 | 0.30 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02    | 0.02 | — | 113   | 113   | 0.01    | 0.01    | 0.12 | 117   |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|-------------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max)     | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| General Heavy Industry  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 237   | 237  | 0.01 | < 0.005 | — | 238  |
| Other Asphalt Surfaces  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 237   | 237  | 0.01 | < 0.005 | — | 238  |
| Daily, Winter (Max)     | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| General Heavy Industry  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 237   | 237  | 0.01 | < 0.005 | — | 238  |
| Other Asphalt Surfaces  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 237   | 237  | 0.01 | < 0.005 | — | 238  |
| Annual                  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |

|                         |   |   |   |   |   |   |   |   |   |   |   |      |      |         |         |   |      |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|---------|---------|---|------|
| General Heavy Industry  | — | — | — | — | — | — | — | — | — | — | — | 39.3 | 39.3 | < 0.005 | < 0.005 | — | 39.4 |
| Other Asphalt Surfaces  | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Total                   | — | — | — | — | — | — | — | — | — | — | — | 39.3 | 39.3 | < 0.005 | < 0.005 | — | 39.4 |

#### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|-------------------------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max)     | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| General Heavy Industry  | 0.01 | 0.20 | 0.17 | < 0.005 | 0.02  | —     | 0.02  | 0.02   | —      | 0.02   | —    | 239   | 239  | 0.02 | < 0.005 | — | 240  |
| Other Asphalt Surfaces  | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | 0.01 | 0.20 | 0.17 | < 0.005 | 0.02  | —     | 0.02  | 0.02   | —      | 0.02   | —    | 239   | 239  | 0.02 | < 0.005 | — | 240  |
| Daily, Winter (Max)     | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| General Heavy Industry  | 0.01 | 0.20 | 0.17 | < 0.005 | 0.02  | —     | 0.02  | 0.02   | —      | 0.02   | —    | 239   | 239  | 0.02 | < 0.005 | — | 240  |

|                         |         |      |      |         |         |   |         |         |   |         |   |      |      |         |         |   |      |
|-------------------------|---------|------|------|---------|---------|---|---------|---------|---|---------|---|------|------|---------|---------|---|------|
| Other Asphalt Surfaces  | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00    | 0.00    | — | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| User Defined Industrial | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00    | 0.00    | — | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Total                   | 0.01    | 0.20 | 0.17 | < 0.005 | 0.02    | — | 0.02    | 0.02    | — | 0.02    | — | 239  | 239  | 0.02    | < 0.005 | — | 240  |
| Annual                  | —       | —    | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| General Heavy Industry  | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 39.6 | 39.6 | < 0.005 | < 0.005 | — | 39.7 |
| Other Asphalt Surfaces  | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00    | 0.00    | — | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| User Defined Industrial | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00    | 0.00    | — | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Total                   | < 0.005 | 0.04 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 39.6 | 39.6 | < 0.005 | < 0.005 | — | 39.7 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | ROG  | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | 0.38 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | 0.12 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |      |         |      |         |         |   |         |         |   |         |   |      |      |         |         |   |      |
|------------------------|------|---------|------|---------|---------|---|---------|---------|---|---------|---|------|------|---------|---------|---|------|
| Landscape Equipment    | 0.13 | 0.01    | 0.76 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 3.13 | 3.13 | < 0.005 | < 0.005 | — | 3.14 |
| Total                  | 0.62 | 0.01    | 0.76 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 3.13 | 3.13 | < 0.005 | < 0.005 | — | 3.14 |
| Daily, Winter (Max)    | —    | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Consumer Products      | 0.38 | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Architectural Coatings | 0.12 | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Total                  | 0.49 | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Annual                 | —    | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Consumer Products      | 0.07 | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Architectural Coatings | 0.02 | —       | —    | —       | —       | — | —       | —       | — | —       | — | —    | —    | —       | —       | — | —    |
| Landscape Equipment    | 0.01 | < 0.005 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.26 | 0.26 | < 0.005 | < 0.005 | — | 0.26 |
| Total                  | 0.10 | < 0.005 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.26 | 0.26 | < 0.005 | < 0.005 | — | 0.26 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                         |   |   |   |   |   |   |   |   |   |   |      |      |      |      |         |   |      |
|-------------------------|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---------|---|------|
| Daily, Summer (Max)     | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —       | — | —    |
| General Heavy Industry  | — | — | — | — | — | — | — | — | — | — | 8.65 | 31.9 | 40.6 | 0.03 | 0.02    | — | 47.1 |
| Other Asphalt Surfaces  | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | — | — | — | — | — | — | — | — | — | — | 8.65 | 31.9 | 40.6 | 0.03 | 0.02    | — | 47.1 |
| Daily, Winter (Max)     | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —       | — | —    |
| General Heavy Industry  | — | — | — | — | — | — | — | — | — | — | 8.65 | 31.9 | 40.6 | 0.03 | 0.02    | — | 47.1 |
| Other Asphalt Surfaces  | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | — | — | — | — | — | — | — | — | — | — | 8.65 | 31.9 | 40.6 | 0.03 | 0.02    | — | 47.1 |
| Annual                  | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —       | — | —    |
| General Heavy Industry  | — | — | — | — | — | — | — | — | — | — | 1.43 | 5.28 | 6.72 | 0.01 | < 0.005 | — | 7.79 |
| Other Asphalt Surfaces  | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total                   | — | — | — | — | — | — | — | — | — | — | 1.43 | 5.28 | 6.72 | 0.01 | < 0.005 | — | 7.79 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|-------------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)     | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| General Heavy Industry  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 11.7 | 0.00  | 11.7 | 1.17 | 0.00 | — | 40.9 |
| Other Asphalt Surfaces  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Industrial | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 11.7 | 0.00  | 11.7 | 1.17 | 0.00 | — | 40.9 |
| Daily, Winter (Max)     | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| General Heavy Industry  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 11.7 | 0.00  | 11.7 | 1.17 | 0.00 | — | 40.9 |
| Other Asphalt Surfaces  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Industrial | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 11.7 | 0.00  | 11.7 | 1.17 | 0.00 | — | 40.9 |
| Annual                  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |



|                         |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|-------------------------|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| General Heavy Industry  | — | — | — | — | — | — | — | — | — | — | 1.94 | 0.00 | 1.94 | 0.19 | 0.00 | — | 6.77 |
| Other Asphalt Surfaces  | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Industrial | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                   | — | — | — | — | — | — | — | — | — | — | 1.94 | 0.00 | 1.94 | 0.19 | 0.00 | — | 6.77 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use               | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R    | CO2e |
|------------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|------|------|
| Daily, Summer (Max)    | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | —    | —    |
| General Heavy Industry | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | 4.56 | 4.56 |
| Total                  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | 4.56 | 4.56 |
| Daily, Winter (Max)    | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | —    | —    |
| General Heavy Industry | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | 4.56 | 4.56 |
| Total                  | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | 4.56 | 4.56 |
| Annual                 | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | —    | —    |
| General Heavy Industry | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | 0.75 | 0.75 |

|       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |      |      |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------|------|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.75 | 0.75 |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------|------|

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name              | Phase Type                               | Start Date | End Date  | Days Per Week | Work Days per Phase | Phase Description                                     |
|-------------------------|------------------------------------------|------------|-----------|---------------|---------------------|-------------------------------------------------------|
| Linear                  | Linear, Drainage, Utilities, & Sub-Grade | 6/8/2026   | 6/28/2026 | 4.00          | 12.0                | Trenching and installation of gas lines               |
| Demolition              | Demolition                               | 3/2/2026   | 4/5/2026  | 4.00          | 20.0                | Demolition of asphalt surfaces                        |
| Site Preparation        | Site Preparation                         | 4/6/2026   | 6/7/2026  | 4.00          | 36.0                | Site preparation and grading for Thermal Dryer System |
| Building Construction A | Building Construction                    | 6/29/2026  | 5/12/2027 | 4.00          | 183                 | Construction of the Thermal Dryer System              |
| Building Construction B | Building Construction                    | 6/1/2027   | 6/16/2027 | 4.00          | 10.0                | Paving and Mechanical and electrical work             |
| Building Construction C | Building Construction                    | 6/16/2027  | 7/4/2027  | 4.00          | 10.0                | Commissioning                                         |
| Building Construction D | Building Construction                    | 8/9/2027   | 8/16/2027 | 4.00          | 5.00                | Startup and preliminary operations                    |
| Architectural Coating   | Architectural Coating                    | 7/5/2027   | 8/8/2027  | 4.00          | 20.0                | Painting                                              |

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

| Phase Name | Equipment Type             | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|------------|----------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Linear     | Bore/Drill Rigs            | Diesel    | Average     | 1.00           | 9.00          | 83.0       | 0.50        |
| Linear     | Excavators                 | Diesel    | Average     | 1.00           | 9.00          | 136        | 0.38        |
| Linear     | Rubber Tired Dozers        | Diesel    | Average     | 1.00           | 9.00          | 367        | 0.40        |
| Linear     | Tractors/Loaders/Back hoes | Diesel    | Average     | 1.00           | 9.00          | 84.0       | 0.37        |
| Linear     | Cranes                     | Diesel    | Average     | 1.00           | 9.00          | 367        | 0.29        |

|                         |                                    |        |         |      |      |      |      |
|-------------------------|------------------------------------|--------|---------|------|------|------|------|
| Linear                  | Other General Industrial Equipment | Diesel | Average | 1.00 | 9.00 | 35.0 | 0.34 |
| Linear                  | Air Compressors                    | Diesel | Average | 1.00 | 9.00 | 37.0 | 0.48 |
| Linear                  | Other Construction Equipment       | Diesel | Average | 1.00 | 9.00 | 82.0 | 0.42 |
| Demolition              | Tractors/Loaders/Back hoes         | Diesel | Average | 3.00 | 9.00 | 84.0 | 0.37 |
| Demolition              | Rubber Tired Dozers                | Diesel | Average | 1.00 | 9.00 | 367  | 0.40 |
| Demolition              | Concrete/Industrial Saws           | Diesel | Average | 1.00 | 9.00 | 33.0 | 0.73 |
| Site Preparation        | Tractors/Loaders/Back hoes         | Diesel | Average | 1.00 | 9.00 | 84.0 | 0.37 |
| Site Preparation        | Excavators                         | Diesel | Average | 1.00 | 9.00 | 136  | 0.38 |
| Site Preparation        | Dumpers/Tenders                    | Diesel | Average | 2.00 | 9.00 | 16.0 | 0.38 |
| Site Preparation        | Skid Steer Loaders                 | Diesel | Average | 1.00 | 9.00 | 71.0 | 0.37 |
| Site Preparation        | Rubber Tired Dozers                | Diesel | Average | 1.00 | 9.00 | 367  | 0.40 |
| Site Preparation        | Scrapers                           | Diesel | Average | 1.00 | 8.00 | 423  | 0.48 |
| Building Construction A | Cranes                             | Diesel | Average | 1.00 | 9.00 | 367  | 0.29 |
| Building Construction A | Forklifts                          | Diesel | Average | 1.00 | 9.00 | 82.0 | 0.20 |
| Building Construction A | Tractors/Loaders/Back hoes         | Diesel | Average | 1.00 | 9.00 | 84.0 | 0.37 |
| Building Construction A | Dumpers/Tenders                    | Diesel | Average | 2.00 | 9.00 | 16.0 | 0.38 |
| Building Construction B | Cranes                             | Diesel | Average | 1.00 | 9.00 | 367  | 0.29 |
| Building Construction B | Forklifts                          | Diesel | Average | 1.00 | 9.00 | 82.0 | 0.20 |
| Building Construction B | Skid Steer Loaders                 | Diesel | Average | 1.00 | 9.00 | 71.0 | 0.37 |
| Architectural Coating   | Air Compressors                    | Diesel | Average | 1.00 | 9.00 | 37.0 | 0.48 |



## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name              | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|-------------------------|--------------|-----------------------|----------------|---------------|
| Demolition              | —            | —                     | —              | —             |
| Demolition              | Worker       | 12.5                  | 8.80           | LDA,LDT1,LDT2 |
| Demolition              | Vendor       | —                     | 5.30           | HHDT,MHDT     |
| Demolition              | Hauling      | 6.75                  | 20.0           | HHDT          |
| Demolition              | Onsite truck | —                     | —              | HHDT          |
| Site Preparation        | —            | —                     | —              | —             |
| Site Preparation        | Worker       | 17.5                  | 8.80           | LDA,LDT1,LDT2 |
| Site Preparation        | Vendor       | 6.00                  | 5.30           | HHDT,MHDT     |
| Site Preparation        | Hauling      | 141                   | 20.0           | HHDT          |
| Site Preparation        | Onsite truck | —                     | —              | HHDT          |
| Building Construction A | —            | —                     | —              | —             |
| Building Construction A | Worker       | 7.35                  | 8.80           | LDA,LDT1,LDT2 |
| Building Construction A | Vendor       | 6.00                  | 5.30           | HHDT,MHDT     |
| Building Construction A | Hauling      | 82.0                  | 39.0           | HHDT          |
| Building Construction A | Onsite truck | —                     | —              | HHDT          |
| Architectural Coating   | —            | —                     | —              | —             |
| Architectural Coating   | Worker       | 5.88                  | 8.80           | LDA,LDT1,LDT2 |
| Architectural Coating   | Vendor       | —                     | 5.30           | HHDT,MHDT     |
| Architectural Coating   | Hauling      | 0.00                  | 20.0           | HHDT          |
| Architectural Coating   | Onsite truck | —                     | —              | HHDT          |
| Building Construction B | —            | —                     | —              | —             |
| Building Construction B | Worker       | 7.35                  | 8.80           | LDA,LDT1,LDT2 |
| Building Construction B | Vendor       | 6.00                  | 5.30           | HHDT,MHDT     |
| Building Construction B | Hauling      | 0.00                  | 20.0           | HHDT          |

|                         |              |      |      |               |
|-------------------------|--------------|------|------|---------------|
| Building Construction B | Onsite truck | —    | —    | HHDT          |
| Building Construction C | —            | —    | —    | —             |
| Building Construction C | Worker       | 7.35 | 8.80 | LDA,LDT1,LDT2 |
| Building Construction C | Vendor       | 6.00 | 5.30 | HHDT,MHDT     |
| Building Construction C | Hauling      | 0.00 | 20.0 | HHDT          |
| Building Construction C | Onsite truck | —    | —    | HHDT          |
| Building Construction D | —            | —    | —    | —             |
| Building Construction D | Worker       | 7.35 | 8.80 | LDA,LDT1,LDT2 |
| Building Construction D | Vendor       | 6.00 | 5.30 | HHDT,MHDT     |
| Building Construction D | Hauling      | 0.00 | 20.0 | HHDT          |
| Building Construction D | Onsite truck | —    | —    | HHDT          |
| Linear                  | —            | —    | —    | —             |
| Linear                  | Worker       | 20.0 | 8.80 | LDA,LDT1,LDT2 |
| Linear                  | Vendor       | 0.00 | 5.30 | HHDT,MHDT     |
| Linear                  | Hauling      | 0.00 | 20.0 | HHDT          |
| Linear                  | Onsite truck | —    | —    | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

| Control Strategies Applied                      | PM10 Reduction | PM2.5 Reduction |
|-------------------------------------------------|----------------|-----------------|
| Water unpaved roads twice daily                 | 55%            | 55%             |
| Limit vehicle speeds on unpaved roads to 25 mph | 44%            | 44%             |
| Sweep paved roads once per month                | 9%             | 9%              |

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|------------------------------------------|------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------|
|------------|------------------------------------------|------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------|

|                       |      |      |        |       |       |
|-----------------------|------|------|--------|-------|-------|
| Architectural Coating | 0.00 | 0.00 | 26,250 | 8,750 | 3,150 |
|-----------------------|------|------|--------|-------|-------|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (Ton of Debris) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------------|---------------------|
| Linear           | —                               | —                               | 0.65                 | 0.00                                | —                   |
| Demolition       | 0.00                            | 0.00                            | 0.00                 | 540                                 | —                   |
| Site Preparation | 1,690                           | 0.00                            | 1.13                 | 0.00                                | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 2                   | 61%            | 61%             |
| Water Demolished Area      | 2                   | 36%            | 36%             |

## 5.7. Construction Paving

| Land Use                | Area Paved (acres) | % Asphalt |
|-------------------------|--------------------|-----------|
| General Heavy Industry  | 0.00               | 0%        |
| Other Asphalt Surfaces  | 1.21               | 100%      |
| User Defined Industrial | 0.00               | 0%        |
| User Defined Linear     | 0.65               | 100%      |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2026 | 0.00         | 532 | 0.03 | < 0.005 |

|      |      |     |      |         |
|------|------|-----|------|---------|
| 2027 | 0.00 | 532 | 0.03 | < 0.005 |
|------|------|-----|------|---------|

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type           | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMt/Weekday | VMt/Saturday | VMt/Sunday | VMt/Year |
|-------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| General Heavy Industry  | 68.8          | 112            | 89.1         | 28,434     | 381         | 622          | 493        | 157,436  |
| Other Asphalt Surfaces  | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |
| User Defined Industrial | 0.00          | 2.00           | 2.00         | 209        | 0.00        | 368          | 368        | 38,377   |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------------------------------------|------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------|
| 0                                        | 0.00                                     | 26,250                                       | 8,750                                        | 3,150                       |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 180   |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|-------------------------|----------------------|-----|--------|--------|-----------------------|
| General Heavy Industry  | 162,731              | 532 | 0.0330 | 0.0040 | 746,370               |
| Other Asphalt Surfaces  | 0.00                 | 532 | 0.0330 | 0.0040 | 0.00                  |
| User Defined Industrial | 0.00                 | 532 | 0.0330 | 0.0040 | 0.00                  |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use                | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|-------------------------|-------------------------|--------------------------|
| General Heavy Industry  | 4,046,875               | 0.00                     |
| Other Asphalt Surfaces  | 0.00                    | 0.00                     |
| User Defined Industrial | 0.00                    | 0.00                     |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use                | Waste (ton/year) | Cogeneration (kWh/year) |
|-------------------------|------------------|-------------------------|
| General Heavy Industry  | 21.7             | —                       |
| Other Asphalt Surfaces  | 0.00             | —                       |
| User Defined Industrial | 0.00             | —                       |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type          | Equipment Type                      | Refrigerant | GWP   | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|------------------------|-------------------------------------|-------------|-------|---------------|----------------------|-------------------|----------------|
| General Heavy Industry | Other commercial A/C and heat pumps | R-410A      | 2,088 | 0.30          | 4.00                 | 4.00              | 18.0           |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
|----------------|-----------|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 6. Climate Risk Detailed Report

### 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard               | Result for Project Location | Unit                                       |
|------------------------------|-----------------------------|--------------------------------------------|
| Temperature and Extreme Heat | 7.98                        | annual days of extreme heat                |
| Extreme Precipitation        | 7.00                        | annual days with precipitation above 20 mm |
| Sea Level Rise               | —                           | meters of inundation depth                 |
| Wildfire                     | 0.00                        | annual hectares burned                     |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about  $\frac{3}{4}$  an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.



## 6.2. Initial Climate Risk Scores

| Climate Hazard               | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | N/A            | N/A               | N/A                     | N/A                 |
| Extreme Precipitation        | N/A            | N/A               | N/A                     | N/A                 |
| Sea Level Rise               | 1              | 0                 | 0                       | N/A                 |
| Wildfire                     | 1              | 0                 | 0                       | N/A                 |
| Flooding                     | N/A            | N/A               | N/A                     | N/A                 |
| Drought                      | 0              | 0                 | 0                       | N/A                 |
| Snowpack Reduction           | N/A            | N/A               | N/A                     | N/A                 |
| Air Quality Degradation      | N/A            | N/A               | N/A                     | N/A                 |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard               | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | N/A            | N/A               | N/A                     | N/A                 |
| Extreme Precipitation        | N/A            | N/A               | N/A                     | N/A                 |
| Sea Level Rise               | 1              | 1                 | 1                       | 2                   |
| Wildfire                     | 1              | 1                 | 1                       | 2                   |
| Flooding                     | N/A            | N/A               | N/A                     | N/A                 |
| Drought                      | 1              | 1                 | 1                       | 2                   |
| Snowpack Reduction           | N/A            | N/A               | N/A                     | N/A                 |
| Air Quality Degradation      | N/A            | N/A               | N/A                     | N/A                 |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator                       | Result for Project Census Tract |
|---------------------------------|---------------------------------|
| Exposure Indicators             | —                               |
| AQ-Ozone                        | 20.8                            |
| AQ-PM                           | 13.8                            |
| AQ-DPM                          | 20.4                            |
| Drinking Water                  | —                               |
| Lead Risk Housing               | —                               |
| Pesticides                      | 17.6                            |
| Toxic Releases                  | 26.6                            |
| Traffic                         | 50.9                            |
| Effect Indicators               | —                               |
| CleanUp Sites                   | 19.9                            |
| Groundwater                     | 68.9                            |
| Haz Waste Facilities/Generators | 36.0                            |
| Impaired Water Bodies           | 83.0                            |
| Solid Waste                     | 22.1                            |
| Sensitive Population            | —                               |
| Asthma                          | 25.9                            |
| Cardio-vascular                 | 41.2                            |
| Low Birth Weights               | —                               |

|                                 |   |
|---------------------------------|---|
| Socioeconomic Factor Indicators | — |
| Education                       | — |
| Housing                         | — |
| Linguistic                      | — |
| Poverty                         | — |
| Unemployment                    | — |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator              | Result for Project Census Tract |
|------------------------|---------------------------------|
| Economic               | —                               |
| Above Poverty          | —                               |
| Employed               | —                               |
| Median HI              | —                               |
| Education              | —                               |
| Bachelor's or higher   | —                               |
| High school enrollment | —                               |
| Preschool enrollment   | —                               |
| Transportation         | —                               |
| Auto Access            | —                               |
| Active commuting       | —                               |
| Social                 | —                               |
| 2-parent households    | —                               |
| Voting                 | —                               |
| Neighborhood           | —                               |
| Alcohol availability   | —                               |
| Park access            | —                               |
| Retail density         | —                               |

|                                              |      |
|----------------------------------------------|------|
| Supermarket access                           | —    |
| Tree canopy                                  | —    |
| Housing                                      | —    |
| Homeownership                                | —    |
| Housing habitability                         | —    |
| Low-inc homeowner severe housing cost burden | —    |
| Low-inc renter severe housing cost burden    | —    |
| Uncrowded housing                            | —    |
| Health Outcomes                              | —    |
| Insured adults                               | —    |
| Arthritis                                    | 0.0  |
| Asthma ER Admissions                         | 97.4 |
| High Blood Pressure                          | 0.0  |
| Cancer (excluding skin)                      | 0.0  |
| Asthma                                       | 0.0  |
| Coronary Heart Disease                       | 0.0  |
| Chronic Obstructive Pulmonary Disease        | 0.0  |
| Diagnosed Diabetes                           | 0.0  |
| Life Expectancy at Birth                     | 0.0  |
| Cognitively Disabled                         | 99.8 |
| Physically Disabled                          | 99.8 |
| Heart Attack ER Admissions                   | 98.5 |
| Mental Health Not Good                       | 0.0  |
| Chronic Kidney Disease                       | 0.0  |
| Obesity                                      | 0.0  |
| Pedestrian Injuries                          | 0.0  |
| Physical Health Not Good                     | 0.0  |
| Stroke                                       | 0.0  |

|                                       |      |
|---------------------------------------|------|
| Health Risk Behaviors                 | —    |
| Binge Drinking                        | 0.0  |
| Current Smoker                        | 0.0  |
| No Leisure Time for Physical Activity | 0.0  |
| Climate Change Exposures              | —    |
| Wildfire Risk                         | 0.0  |
| SLR Inundation Area                   | 12.9 |
| Children                              | 99.4 |
| Elderly                               | 99.8 |
| English Speaking                      | 0.0  |
| Foreign-born                          | 0.0  |
| Outdoor Workers                       | 98.2 |
| Climate Change Adaptive Capacity      | —    |
| Impervious Surface Cover              | 82.5 |
| Traffic Density                       | 0.0  |
| Traffic Access                        | 0.0  |
| Other Indices                         | —    |
| Hardship                              | 0.0  |
| Other Decision Support                | —    |
| 2016 Voting                           | 0.0  |

### 7.3. Overall Health & Equity Scores

| Metric                                                                              | Result for Project Census Tract |
|-------------------------------------------------------------------------------------|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a)                                  | —                               |
| Healthy Places Index Score for Project Location (b)                                 | —                               |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535)           | No                              |
| Project Located in a Low-Income Community (Assembly Bill 1550)                      | No                              |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No                              |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen                                    | Justification                                                       |
|-------------------------------------------|---------------------------------------------------------------------|
| Construction: Construction Phases         | 4-10 Schedule                                                       |
| Construction: Off-Road Equipment          | Project specific                                                    |
| Construction: Dust From Material Movement | Project specific                                                    |
| Construction: Trips and VMT               | Project specific                                                    |
| Operations: Vehicle Data                  | Sludge hauling to Lost Hills: two trucks a week ~184 miles each way |
| Operations: Fleet Mix                     | sludge hauling done by vacuum trucks. HHDs                          |

## **APPENDIX A2 – STATIONARY SOURCES EMISSIONS CALCULATIONS**



**Table A2-1: Data and Parameters**

|                                         |                          |           |                             |
|-----------------------------------------|--------------------------|-----------|-----------------------------|
| Molar Volume                            | Constant                 | 379       | scf/lb-mol                  |
| MW SO <sub>2</sub>                      | Constant                 | 64        | lb/lb-mol                   |
| Conversion                              | Constant                 | 454       | gm/lb                       |
| Conversion                              | Constant                 | 1.341     | hp/kW                       |
| Conversion                              | Constant                 | 60        | min/hr                      |
| Conversion                              | Constant                 | 1,000,000 | MMscf/btu to scf/btu        |
| HHV Natural Gas                         | Per Applicant            | 1,050     | Btu/scf per SBCAPCD Default |
| Operating Schedule                      | Per Applicant            | 24        | hrs/day                     |
| Operating Schedule                      | Per Applicant            | 365       | days/year                   |
| Operating Schedule                      | Calculation              | 8760      | hrs/yr                      |
| Fluid Heaters Maximum Natural Gas Usage | Equipment Specifications | 5340      | scf/hr                      |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 128,160   | scf/day                     |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 46,778    | MMscf/year                  |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 0.0053    | MMScf/hr                    |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 5.61      | MMBtu/hr                    |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 135       | MMBtu/day                   |
| Fluid Heaters Maximum Natural Gas Usage | Calculated               | 49117     | MMBtu/year                  |

**Table A2-2: SO<sub>x</sub> Emission Factor Calculation**

| Reference                     | SO <sub>x</sub> Conc<br>(ppmv) | Emission Factor<br>(lb/mmScf) | Emission Factor<br>(lb/mmBtu) |
|-------------------------------|--------------------------------|-------------------------------|-------------------------------|
| Uncontrolled <sup>1</sup>     | 12.6                           | 2.1                           | 0.0020                        |
| Controlled (SBCAPCD Rule 311) | 12.6                           | 2.1                           | 0.0020                        |

<sup>1</sup>) Per SoCal Gas Rule 30 total sulfur in pipeline quality natural gas shall not exceed 12.6 ppm [https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/tariffs/GAS\\_G-RULES\\_30.pdf](https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/tariffs/GAS_G-RULES_30.pdf)  
E.F. (SO<sub>x</sub>) (lb/scf) = (ppm S / 10<sup>6</sup>) x (1 / 379 scf/lb-mol) x (1 mol SO<sub>2</sub> / 1 mol H<sub>2</sub>S) x (64 lb SO<sub>2</sub>/lbmol) x (10<sup>6</sup> scf/MMScf)

**Table A2-3: PPM Emission Factor Calculations**

Emissions (lb/hr) = (ppm limit / 10<sup>6</sup>) x (20.9/17.9) [Dimensionless O<sub>2</sub> Correction] x (F Factor dscf/MMBtu) x (Fuel Consumed MMBtu/hr) x (1 / 379 scf/lb-mol) x (molecular weight lb /lbmol)

**Table A2-3a: PPM Emission Factor Calculations for NO<sub>x</sub>**

| Concentration (ppm @ 3% O <sub>2</sub> ) | O <sub>2</sub> Correction | F factor <sup>1</sup> | Fuel Use rate | Conversion              | Conversion              |   | NO <sub>x</sub> Emissions (lb/hr) | NO <sub>x</sub> Emissions (lb/MMscf) | NO <sub>x</sub> Emissions (lb/MMBtu) |
|------------------------------------------|---------------------------|-----------------------|---------------|-------------------------|-------------------------|---|-----------------------------------|--------------------------------------|--------------------------------------|
| 9.0 parts NO <sub>x</sub>                | 20.9                      | 8,710 dscf exhaust    | 5.61 MMBtu    | 1 lbmol NO <sub>x</sub> | 46 lb NO <sub>x</sub>   | = | 0.06                              | 11.66                                | 0.01                                 |
| 1,000,000 parts exhaust                  | 17.9                      | 1 MMBtu               | 1 hour        | 379 scf                 | 1 lbmol NO <sub>x</sub> |   |                                   |                                      |                                      |

**Table A2-3b: PPM Emission Factor Calculations for CO**

| Concentration           | O <sub>2</sub> Correction | F factor <sup>1</sup> | Fuel Use rate | Conversion | Conversion |   | CO Emissions (lb/hr) | CO Emission Factor (lb/MMscf) | CO Emissions (lb/MMBtu) |
|-------------------------|---------------------------|-----------------------|---------------|------------|------------|---|----------------------|-------------------------------|-------------------------|
| 400.0 parts CO          | 20.9                      | 8,710 dscf exhaust    | 5.61 MMBtu    | 1 lbmol CO | 28 lb CO   | = | 1.69                 | 315.56                        | 0.30                    |
| 1,000,000 parts exhaust | 17.9                      | 1 MMBtu               | 1 hour        | 379 scf    | 1 lbmol CO |   |                      |                               |                         |

1) From EPA Method 19 Table 19-2

**Table A2-4: Uncontrolled Criteria Pollutant Emissions**

| Pollutant       | Emission Factor Source | Emission Factor (lb/MMscf) | Emission Factor (lb/MMBtu) | Hourly (lb/hr) | Daily (lb/day) | Annual (lb/yr) | TPY  |
|-----------------|------------------------|----------------------------|----------------------------|----------------|----------------|----------------|------|
| NO <sub>x</sub> | SBCAPCD Rule 342       | 11.66                      | 0.0111                     | 0.06           | 1.5            | 546            | 0.27 |
| CO              | SBCAPCD Rule 342       | 315.56                     | 0.3005                     | 1.69           | 40.4           | 14761          | 7.38 |
| ROC             | AP-42 Table 1.4-1      | 5.5                        | 0.0052                     | 0.03           | 0.70           | 257            | 0.13 |
| PM/PM10/PM2.5   | AP-42 Table 1.4-1      | 7.6                        | 0.0072                     | 0.04           | 1.0            | 356            | 0.18 |
| SO <sub>x</sub> | SBCAPCD Rule 311       |                            | 0.0020                     | 0.01           | 0.27           | 100            | 0.05 |

lb/MMBtu = [(lb/MMscf) / (Btu/scf)]

**Table A2-5: Controlled Criteria Emissions Dryer Combustion**

| Pollutant       | Emission Factor Source | Emission Factor (lb/MMscf) | Emission Factor (lb/MMBtu) | Hourly (lb/hr) | Daily (lb/day) | Annual (lb/yr) | TPY  |
|-----------------|------------------------|----------------------------|----------------------------|----------------|----------------|----------------|------|
| NO <sub>x</sub> | SBCAPCD Rule 342       | 11.66                      | 0.0111                     | 0.06           | 1.5            | 546            | 0.27 |
| CO              | SBCAPCD Rule 342       | 315.56                     | 0.3005                     | 1.69           | 40.4           | 14761          | 7.38 |
| ROC             | AP-42 Table 1.4-1      | 5.5                        | 0.0052                     | 0.03           | 0.7            | 257            | 0.13 |
| PM/PM10/PM2.5   | AP-42 Table 1.4-1      | 7.6                        | 0.0072                     | 0.04           | 1.0            | 356            | 0.18 |
| SO <sub>x</sub> | SBCAPCD Rule 311       |                            | 0.0020                     | 0.01           | 0.27           | 100            | 0.05 |

**Table A2-6: Toxic Emissions Dryer Combustion**

| Toxics                   | CAS No.   | SBCAPCD Approved<br>Emission Factors<br>December 2023<br>(lb/MMcf) | Abatement Factor | Maximum<br>Hourly<br>Controlled<br>(lb/hr) | Annual<br>Controlled<br>Emissions<br>(lb/yr) |
|--------------------------|-----------|--------------------------------------------------------------------|------------------|--------------------------------------------|----------------------------------------------|
| Arsenic                  | 7440382   | 2.00E-04                                                           | 0%               | 1.07E-06                                   | 9.36E-03                                     |
| Barium                   | 7440393   | 4.40E-03                                                           | 0%               | 2.35E-05                                   | 2.06E-01                                     |
| Beryllium                | 7440417   | 1.20E-05                                                           | 0%               | 6.41E-08                                   | 5.61E-04                                     |
| Cadmium                  | 7440439   | 1.10E-03                                                           | 0%               | 5.87E-06                                   | 5.15E-02                                     |
| Chromium 6+              | 18540299  | 5.60E-05                                                           | 0%               | 2.99E-07                                   | 2.62E-03                                     |
| Chromium (total)         | 7440473   | 1.40E-03                                                           | 0%               | 7.48E-06                                   | 6.55E-02                                     |
| Cobalt                   | 7440484   | 8.40E-05                                                           | 0%               | 4.49E-07                                   | 3.93E-03                                     |
| Copper                   | 7440508   | 8.50E-04                                                           | 0%               | 4.54E-06                                   | 3.98E-02                                     |
| Lead                     | 7439921   | 5.00E-04                                                           | 0%               | 2.67E-06                                   | 2.34E-02                                     |
| Manganese                | 7439965   | 3.80E-04                                                           | 0%               | 2.03E-06                                   | 1.78E-02                                     |
| Mercury                  | 7439976   | 2.60E-04                                                           | 0%               | 1.39E-06                                   | 1.22E-02                                     |
| Molybdenum               | 7439987   | 1.10E-03                                                           | 0%               | 5.87E-06                                   | 5.15E-02                                     |
| Nickel                   | 7440020   | 2.10E-03                                                           | 0%               | 1.12E-05                                   | 9.82E-02                                     |
| Selenium                 | 7782492   | 2.40E-05                                                           | 0%               | 1.28E-07                                   | 1.12E-03                                     |
| Vanadium                 | 7440622   | 2.30E-03                                                           | 0%               | 1.23E-05                                   | 1.08E-01                                     |
| Zinc                     | 7440666   | 2.90E-02                                                           | 0%               | 1.55E-04                                   | 1.36E+00                                     |
| Acetaldehyde             | 75070     | 4.30E-03                                                           | 0%               | 2.30E-05                                   | 2.01E-01                                     |
| Acrolein                 | 107028    | 2.70E-03                                                           | 0%               | 1.44E-05                                   | 1.26E-01                                     |
| Benzene                  | 71432     | 8.00E-03                                                           | 0%               | 4.27E-05                                   | 3.74E-01                                     |
| Ethyl Benzene            | 100414    | 9.50E-03                                                           | 0%               | 5.07E-05                                   | 4.44E-01                                     |
| Formaldehyde             | 50000     | 1.70E-02                                                           | 0%               | 9.08E-05                                   | 7.95E-01                                     |
| n-Hexane                 | 110543    | 6.30E-03                                                           | 0%               | 3.36E-05                                   | 2.95E-01                                     |
| Naphthalene              | 91203     | 3.00E-04                                                           | 0%               | 1.60E-06                                   | 1.40E-02                                     |
| PAHs (excl. naphthalene) | 1150/1151 | 1.00E-04                                                           | 0%               | 5.34E-07                                   | 4.68E-03                                     |
| Propylene                | 115071    | 7.31E-01                                                           | 0%               | 3.90E-03                                   | 3.42E+01                                     |
| Toluene                  | 108883    | 3.66E-02                                                           | 0%               | 1.95E-04                                   | 1.71E+00                                     |
| Xylenes                  | 1330207   | 2.72E-02                                                           | 0%               | 1.45E-04                                   | 1.27E+00                                     |

Notes:

Emission Factors are from SBCAPCD Approved Emissions Factors December 2023 document section for Boilers / Heaters - Natural Gas

**Table A2-7: Dryer Operating Schedule**

|                |    |
|----------------|----|
| hours per day  | 24 |
| days per week  | 7  |
| weeks per year | 52 |

**Table A2-8: POC Emissions from Sludge Handling**

| Equipment    | Emission Factor<br>(lb/yr/MGD) <sup>1</sup> | Throughput<br>(MGD) <sup>2</sup> | ROC Emissions<br>(lb/hr) | ROC Emissions<br>(lb/day) | ROC Emissions<br>(lb/yr) |
|--------------|---------------------------------------------|----------------------------------|--------------------------|---------------------------|--------------------------|
| Dryer        | 32.69                                       | 7.64                             | 0.03                     | 0.69                      | 250                      |
| <b>Total</b> |                                             |                                  | <b>0.03</b>              | <b>0.69</b>               | <b>250</b>               |

1. Joint Emissions Inventory Program (JEIP) Table 1-7

2. Current NPDES permitted throughput is 7.64 MDG average dry weather flow

**Table A2-9: PM Emissions from Dewatered Sludge Handling**

| Pollutant             | Unabated PM Emission<br>Factor<br>(lb/hr) <sup>2</sup> | Abatement Efficiency | Unabated PM Emissions<br>(lb/day) | Unabated PM<br>Emissions<br>(lb/yr) | Abated PM Emissions<br>(lb/hr) | Abated PM Emissions<br>(lb/day) | Abated PM Emissions<br>(lb/yr) |
|-----------------------|--------------------------------------------------------|----------------------|-----------------------------------|-------------------------------------|--------------------------------|---------------------------------|--------------------------------|
| PM (<10um and >2.5um) | 0.44                                                   | 86.3%                | 10.56                             | 3843.84                             | 0.06                           | 1.45                            | 526.61                         |
| PM2.5                 | 0.21                                                   | 61.3%                | 5.04                              | 1834.56                             | 0.08                           | 1.95                            | 709.97                         |
| <b>Total PM10</b>     | <b>0.65</b>                                            |                      | <b>15.60</b>                      | <b>5678.40</b>                      | <b>0.14</b>                    | <b>3.40</b>                     | <b>1236.58</b>                 |

1. Each of these operations is assumed to have 1 drop point

2. Emission Factors are from equipment specifications

3. PM2.5 is a subset of PM 10 emissions, and as a result, the PM values are not totaled for unabated, but rather PM 10 represents the total, while PM2.5 represents a portion of the PM10 emissions.

However, the abated calculations require that the abated PM2.5 emissions be calculated, and a diffenet calculation be completed to determine the abated PM10 which is not accounted for by the abated PM2.5 calculation, and then these two numbers

**Table A2-10: Dryer Toxic Emissions (JEIP + webfire)**

| CAS     | Compound              | Emission Speciation<br>Factor <sup>1</sup> | Emission Speciation <sup>1</sup><br>% of Total ROC which is<br>Listed Toxic | Hourly Emissions <sup>2</sup><br>(lb/hr) | Annual Emissions<br>(lb/yr) |
|---------|-----------------------|--------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------|-----------------------------|
| 75070   | Acetaldehyde          | 1.32E+01                                   | 99.68%                                                                      | 2.85E-02                                 | 2.49E+02                    |
| 71432   | Benzene               | 2.80E-03                                   | 0.02%                                                                       | 6.05E-06                                 | 5.28E-02                    |
| 75092   | Dichloromethane       | 5.70E-03                                   | 0.04%                                                                       | 1.23E-05                                 | 1.08E-01                    |
| 50000   | Formaldehyde          | 1.20E-03                                   | 0.01%                                                                       | 2.59E-06                                 | 2.26E-02                    |
| 1330207 | Xylenes               | 1.10E-02                                   | 0.08%                                                                       | 2.37E-05                                 | 2.07E-01                    |
| 127184  | Perchloroethylene     | 2.70E-03                                   | 0.02%                                                                       | 5.83E-06                                 | 5.09E-02                    |
| 108883  | Toluene               | 1.30E-02                                   | 0.10%                                                                       | 2.81E-05                                 | 2.45E-01                    |
| 71556   | 1,1,1-Trichloroethane | 5.70E-03                                   | 0.04%                                                                       | 1.23E-05                                 | 1.08E-01                    |

1. EPA AP-42 (WebFire) "POTW: Sludge Drying Bed". Although the dryer exhaust gas may go to a carbon abatement unit, the organic toxic abatement efficiency is not guaranteed so is not included in the emission calculations.

2. Hourly emissions are assumed to be based on annual throughput and the operating schedule.

## Emission Calculations for Emergency IC Engine Maintenance Usage

| Criteria Pollutant Emissions |                            |            | Model #: JU6H-UFADMG |          |         |           |
|------------------------------|----------------------------|------------|----------------------|----------|---------|-----------|
| Pollutant                    | Emission Factor (g/bhp-hr) | References | (lb/hr)              | (lb/day) | (lb/yr) | (tons/yr) |
| NOx                          | 2.85                       | [1,2]      | 1.4                  | 2.83     | 71      | 0.035     |
| POC                          | 0.15                       | [1,2]      | 0.07                 | 0.15     | 3.7     | 0.0019    |
| CO                           | 2.6                        | [1]        | 1.29                 | 2.58     | 64      | 0.0322    |
| PM10/PM2.5                   | 0.15                       | [1,3]      | 0.074                | 0.15     | 3.7     | 0.00186   |
| SOx                          | 0.0049                     | [4]        | 0.002                | 0.00     | 0.12    | 0.00006   |

## Toxic Air Contaminant Emissions

| Pollutant                | CAS Number | Emission Factor | Units       | References | (lb/hr)* | (lb/day) | (lb/year) |
|--------------------------|------------|-----------------|-------------|------------|----------|----------|-----------|
| Diesel PM                | 9901       | 0.15            | g/bhp-hr    | [1,3]      | 7.44E-02 | 0.15     | 3.72      |
| Arsenic                  | 7440382    | 0.0016          | lb/1000 gal | [11]       | 1.84E-05 | 0.00     | 0.00      |
| Cadmium                  | 7440439    | 0.0015          | lb/1000 gal | [11]       | 1.72E-05 | 0.00     | 0.00      |
| Chromium 6+              | 18540299   | 0.0001          | lb/1000 gal | [11]       | 1.15E-06 | 0.00     | 0.00      |
| Chromium (total)         | 7440473    | 0.0006          | lb/1000 gal | [11]       | 6.90E-06 | 0.00     | 0.00      |
| Copper                   | 7440508    | 0.0041          | lb/1000 gal | [11]       | 4.71E-05 | 0.00     | 0.00      |
| Lead                     | 7439921    | 0.0083          | lb/1000 gal | [11]       | 9.54E-05 | 0.00     | 0.00      |
| Manganese                | 7439965    | 0.0031          | lb/1000 gal | [11]       | 3.56E-05 | 0.00     | 0.00      |
| Mercury                  | 7439976    | 0.0020          | lb/1000 gal | [11]       | 2.30E-05 | 0.00     | 0.00      |
| Nickel                   | 7440020    | 0.0039          | lb/1000 gal | [11]       | 4.48E-05 | 0.00     | 0.00      |
| Selenium                 | 7782492    | 0.0022          | lb/1000 gal | [11]       | 2.53E-05 | 0.00     | 0.00      |
| Zinc                     | 7440666    | 0.0224          | lb/1000 gal | [11]       | 2.58E-04 | 0.00     | 0.00      |
| Acetaldehyde             | 75070      | 0.7833          | lb/1000 gal | [11]       | 9.01E-03 | 0.00     | 0.00      |
| Acrolein                 | 107028     | 0.0339          | lb/1000 gal | [11]       | 3.90E-04 | 0.00     | 0.00      |
| Ammonia                  | 7664417    | 2.9000          | lb/1000 gal | [11]       | 3.33E-02 | 0.00     | 0.00      |
| Benzene                  | 71432      | 0.1863          | lb/1000 gal | [11]       | 2.14E-03 | 0.00     | 0.00      |
| 1,3-Butadiene            | 106990     | 0.2174          | lb/1000 gal | [11]       | 2.50E-03 | 0.00     | 0.00      |
| Chlorobenzene            | 108907     | 0.0002          | lb/1000 gal | [11]       | 2.30E-06 | 0.00     | 0.00      |
| Ethyl Benzene            | 100414     | 0.0109          | lb/1000 gal | [11]       | 1.25E-04 | 0.00     | 0.00      |
| Formaldehyde             | 50000      | 1.7261          | lb/1000 gal | [11]       | 1.98E-02 | 0.00     | 0.00      |
| n-Hexane                 | 110543     | 0.0269          | lb/1000 gal | [11]       | 3.09E-04 | 0.00     | 0.00      |
| Hydrochloric Acid        | 7647010    | 0.1863          | lb/1000 gal | [11]       | 2.14E-03 | 0.00     | 0.00      |
| Naphthalene              | 91203      | 0.0197          | lb/1000 gal | [11]       | 2.26E-04 | 0.00     | 0.00      |
| PAHs (excl. naphthalene) | 1151       | 0.0362          | lb/1000 gal | [11]       | 4.16E-04 | 0.00     | 0.00      |
| Propylene                | 115071     | 0.4670          | lb/1000 gal | [11]       | 5.37E-03 | 0.00     | 0.00      |
| Toluene                  | 108883     | 0.1054          | lb/1000 gal | [11]       | 1.21E-03 | 0.00     | 0.00      |
| Xylenes                  | 1330207    | 0.0424          | lb/1000 gal | [11]       | 4.87E-04 | 0.00     | 0.00      |

\*Speciated TACs are shown for maximum hourly emissions for the purposes of the HR.

## Equipment and Operating Parameters

| Value              | Units | References  |
|--------------------|-------|-------------|
| Generator Rating   | 147.0 | ekW [8]     |
| Operating schedule | 2     | hr/day N/A  |
| Operating schedule | 50    | hr/yr [9]   |
| Engine rating      | 225   | bhp [8]     |
| Fuel use           | 81.05 | lb/hr N/A   |
| Fuel use           | 11.50 | gal/hr [10] |

## References

[1] CARB ATCM Standards / Tier 3 Standards

| NOx  | CO   | PM   | NMHC | Units    |
|------|------|------|------|----------|
| 2.85 | 2.60 | 0.15 | 0.15 | g/bhp-hr |

- [2] 95% of NMHC+NOx as NOx and 5% as NMHC (POC) per 2005 Carl Moyer Guidelines Table B-22 and BAAQMD "Policy: CARB Emission Factors for CI Diesel Engines – Percent HC in Relation to NMHC + NOx" (2004) (NOx and MHC Fraction Default Values for All Engines except TRUs)
- [3] Assume 100% diesel PM is <2.5 microns ("80%-95% of the mass of particles in DE is in the size range from 0.05-1.0" per EPA Health Assessment for Diesel Engine Exhaust - May 2002)
- [4] SOx EF based on mass balance of 15 ppmw sulfur content in diesel fuel and engine fuel consumption rate
- [5] Default Brake-Specific Fuel Capacity (BSFC) per AP-42 Table 3.3-1 (10/96)
- [6] Defaults for diesel/distillate fuel oil per AP-42 Appendix A (09/85)
- [7] CA diesel limited to 15 ppm sulfur for sale or supply (CCR §2281(a)(2) - Sulfur Content of Diesel Fuel)

- [8] Clarke Nameplate Specific Emissions Data
- [9] Maximum allowable non-emergency usage per 40 CFR 60.4211(f)
- [10] Fuel use (gal/hr) calculated assuming 100% load at manufacturer rated power
- [11] SBCAPCD Approved TAC Emission Factors - December 2023

| Other Factors and Constants |                           |            |
|-----------------------------|---------------------------|------------|
| Value                       |                           | References |
| 0.7457                      | kW/hp                     | Constant   |
| 453.59                      | g/lb                      | Constant   |
| 7,000                       | BTU/hp-hr                 | [5]        |
| 137,000                     | BTU/gal diesel            | [6]        |
| 7.05                        | lb/gal diesel             | [6]        |
| 64                          | lb/lb mol SO <sub>2</sub> | Constant   |
| 32                          | lb/lb mol S               | Constant   |
| 15                          | ppmw S in USLD            | [7]        |
| 2.85                        | g NO <sub>x</sub> /hp-hr  | [1]        |
| 0.15                        | g NHMC/bhp-hr             | [1]        |
| 2.60                        | g CO/bhp-hr               | [1]        |
| 0.15                        | g PM/bhp-hr               | [1]        |
| 24.00                       | hrs/day                   | Constant   |

**Table A2-11: Combined Stationary Sources Uncontrolled Criteria Emissions**

| Pollutant | Hourly<br>(lb/hr) | Daily<br>(lb/day) | Annual<br>(ton/yr) |
|-----------|-------------------|-------------------|--------------------|
| NOx       | 1.48              | 4.32              | 0.31               |
| CO        | 2.97              | 43.02             | 7.41               |
| ROC       | 0.13              | 1.54              | 0.26               |
| PM10      | 0.76              | 16.72             | 3.02               |
| PM2.5     | 0.32              | 6.16              | 1.10               |
| SOx       | 0.01              | 0.28              | 0.05               |

**Table A2-12: Combined Stationary Sources Controlled Criteria Emissions**

| Pollutant | Hourly<br>(lb/hr) | Daily<br>(lb/day) | Annual<br>(ton/yr) |
|-----------|-------------------|-------------------|--------------------|
| NOx       | 1.48              | 4.32              | 0.31               |
| CO        | 2.97              | 43.02             | 7.41               |
| ROC       | 0.13              | 1.54              | 0.26               |
| PM10      | 0.26              | 4.52              | 0.80               |
| PM2.5     | 0.20              | 3.07              | 0.53               |
| SOx       | 0.01              | 0.28              | 0.05               |

**Table A2-13: Combined Stationary Sources Toxic Emissions Summary**

| TACS                     | CAS No.   | Maximum Hourly Controlled<br>(lb/hr) | Total Annual Emissions<br>(lb/yr) |
|--------------------------|-----------|--------------------------------------|-----------------------------------|
| Arsenic                  | 7440382   | 1.95E-05                             | 9.36E-03                          |
| Barium                   | 7440393   | 2.35E-05                             | 2.06E-01                          |
| Beryllium                | 7440417   | 6.41E-08                             | 5.61E-04                          |
| Cadmium                  | 7440439   | 2.31E-05                             | 5.15E-02                          |
| Chromium 6+              | 18540299  | 1.45E-06                             | 2.62E-03                          |
| Chromium (total)         | 7440473   | 1.44E-05                             | 6.55E-02                          |
| Cobalt                   | 7440484   | 4.49E-07                             | 3.93E-03                          |
| Copper                   | 7440508   | 5.17E-05                             | 3.98E-02                          |
| Lead                     | 7439921   | 9.81E-05                             | 2.34E-02                          |
| Manganese                | 7439965   | 3.77E-05                             | 1.78E-02                          |
| Mercury                  | 7439976   | 2.44E-05                             | 1.22E-02                          |
| Molybdenum               | 7439987   | 5.87E-06                             | 5.15E-02                          |
| Nickel                   | 7440020   | 5.60E-05                             | 9.82E-02                          |
| Selenium                 | 7782492   | 2.54E-05                             | 1.12E-03                          |
| Vanadium                 | 7440622   | 1.23E-05                             | 1.08E-01                          |
| Zinc                     | 7440666   | 4.12E-04                             | 1.36E+00                          |
| Acetaldehyde             | 75070     | 3.75E-02                             | 2.49E+02                          |
| Acrolein                 | 107028    | 4.04E-04                             | 1.26E-01                          |
| Ammonia                  | 7664417   | 3.33E-02                             | -                                 |
| Benzene                  | 71432     | 2.19E-03                             | 4.27E-01                          |
| 1,3-Butadiene            | 106990    | 2.50E-03                             | -                                 |
| Chlorobenzene            | 108907    | 2.30E-06                             | -                                 |
| Ethyl Benzene            | 100414    | 1.76E-04                             | 4.44E-01                          |
| Formaldehyde             | 50000     | 1.99E-02                             | 8.18E-01                          |
| n-Hexane                 | 110543    | 3.43E-04                             | 2.95E-01                          |
| Hydrochloric Acid        | 7647010   | 2.14E-03                             | -                                 |
| Naphthalene              | 91203     | 2.28E-04                             | 1.40E-02                          |
| PAHs (excl. naphthalene) | 1150/1151 | 5.34E-07                             | 4.68E-03                          |
| Propylene                | 115071    | 9.27E-03                             | 3.42E+01                          |
| Toluene                  | 108883    | 1.44E-03                             | 1.96E+00                          |
| Xylenes                  | 1330207   | 6.56E-04                             | 1.48E+00                          |
| Dichloromethane          | 75092     | 1.23E-05                             | 1.08E-01                          |
| Perchloroethylene        | 127184    | 5.83E-06                             | 5.09E-02                          |
| 1,1,1-Trichloroethane    | 71556     | 1.23E-05                             | 1.08E-01                          |



**Table A2-14: Land Use Operational Emissions from CalEEMod**

| Criteria Pollutants     | Land Use Emissions (lbs/day) | Land Use Emissions (tons/year) |
|-------------------------|------------------------------|--------------------------------|
| ROC                     | 1.05                         | 0.16                           |
| NO <sub>x</sub>         | 1.94                         | 0.15                           |
| CO                      | 3.51                         | 0.40                           |
| SO <sub>x</sub>         | 0.02                         | 0.00                           |
| Total PM <sub>10</sub>  | 0.82                         | 0.08                           |
| Total PM <sub>2.5</sub> | 0.24                         | 0.02                           |

**Table A2-15: Proposed Project Operational Emissions (Stationary + Land Use)**

| Criteria Pollutants     | Project Emissions (lbs/day) | Project Emissions (tons/year) | SBCAPCD Guidelines Threshold (lbs/day) | Significant? |
|-------------------------|-----------------------------|-------------------------------|----------------------------------------|--------------|
| ROC                     | 2.59                        | 0.41                          | 240                                    | No           |
| NO <sub>x</sub>         | 6.27                        | 0.46                          | 240                                    | No           |
| CO                      | 46.54                       | 7.82                          |                                        |              |
| SO <sub>x</sub>         | 0.30                        | 0.05                          | 240                                    | No           |
| Total PM <sub>10</sub>  | 5.34                        | 0.87                          | 80                                     | No           |
| Total PM <sub>2.5</sub> | 4.76                        | 0.82                          |                                        |              |

## **APPENDIX A3 – HRA DETAILS**

**Table 3-1: Source Parameters**

| Source               | Source ID | Source Type | Release Height (ft) | Stack Diameter (ft) | Exhaust Temp. (°F) | Exhaust Flowrate (acfm) | UTME (m)   | UTMN (m)     | Stack Configuration | Reference                             |
|----------------------|-----------|-------------|---------------------|---------------------|--------------------|-------------------------|------------|--------------|---------------------|---------------------------------------|
| CHP Engine           | CHP       | Point       | 19.7                | 0.49                | 356                | 711                     | 239,602.40 | 3,812,674.42 | Vertical, no cap    | ATC 15822                             |
| Thermal Fluid Heater | THERM     | Point       | 36.5                | 1.17                | 675                | 2,670                   | 239,641.35 | 3,812,580.21 | Vertical, no cap    | Fulton Companies Equipment Spec Sheet |
| Thermal Sludge Dryer | SLDG      | Point       | 36.5                | 0.67                | 110                | 161                     | 239,637.20 | 3,812,587.85 | Vertical, no cap    | Facility provided                     |
| Firepump Engine      | FIREPUMP  | POINT       | 7.4                 | 0.34                | 899                | 2,000                   | 239,490.94 | 3,812,601.01 | Vertical, capped    | SBCAPCD DICE Data                     |

**Table 3-2: Exposure Assumptions**

| Parameter                                          | Assumptions                                                                |                                     |   |                                     | Comments                                                                                                                                                   |
|----------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------|---|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multi-Pathway                                      |                                                                            |                                     |   |                                     |                                                                                                                                                            |
| Inhalation                                         | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input checked="" type="checkbox"/> | “Warm” climate per Section 4.4.3 of the Modeling Guidelines.                                                                                               |
| Dermal                                             | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input checked="" type="checkbox"/> |                                                                                                                                                            |
| Soil                                               | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input checked="" type="checkbox"/> |                                                                                                                                                            |
| Homegrown Produce                                  | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input type="checkbox"/>            | The assessment will use the defaults for “Households that Garden”.                                                                                         |
| Mother’s Milk                                      | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input type="checkbox"/>            |                                                                                                                                                            |
| Drinking Water                                     | R/S                                                                        | <input type="checkbox"/>            | W | <input type="checkbox"/>            |                                                                                                                                                            |
| Fish                                               | R/S                                                                        | <input type="checkbox"/>            | W | <input type="checkbox"/>            |                                                                                                                                                            |
| Beef/Dairy                                         | R/S                                                                        | <input type="checkbox"/>            | W | <input type="checkbox"/>            |                                                                                                                                                            |
| Pigs, Chickens, and/or Eggs                        | R/S                                                                        | <input checked="" type="checkbox"/> | W | <input type="checkbox"/>            | Chicken and eggs only. The assessment will use the defaults for “Households that Raise/Hunt” and will assume no drinking water from a contaminated source. |
| Deposition Velocity                                | 0.05 m/s                                                                   |                                     |   |                                     | Per SBCAPCD Comments                                                                                                                                       |
| Residential and Sensitive Cancer Risk Assumptions  |                                                                            |                                     |   |                                     |                                                                                                                                                            |
| Exposure Duration                                  | 30 years                                                                   |                                     |   |                                     |                                                                                                                                                            |
| Fraction of Time at Home                           | 3 <sup>rd</sup> Trimester to 16 years: OFF<br>16 years to 30 years: ON     |                                     |   |                                     | Per SBCAPCD Comments                                                                                                                                       |
| Analysis Option                                    | RMP Using the Derived Method                                               |                                     |   |                                     |                                                                                                                                                            |
| Worker Cancer Risk Assumptions                     |                                                                            |                                     |   |                                     |                                                                                                                                                            |
| Exposure Duration                                  | 25 years                                                                   |                                     |   |                                     |                                                                                                                                                            |
| Analysis Option                                    | Office of Environmental Health Hazard Assessment (OEHHA)<br>Derived Method |                                     |   |                                     |                                                                                                                                                            |
| Residential and Worker Non-Cancer Risk Assumptions |                                                                            |                                     |   |                                     |                                                                                                                                                            |
| Analysis Option                                    | OEHHA Derived Method                                                       |                                     |   |                                     |                                                                                                                                                            |

**Figure 3-1: Receptor Locations of Maximum HRA Results Corresponding to Table 4-9**



**Legend**

- Light Blue Square .....Cancer Risk, Non-Cancer Chronic Risk; Resident  
 Green Circle .....Cancer Risk, Non-Cancer Chronic Risk; 8-hour Chronic Non-Cancer Risk; Worker  
 Yellow Triangle .....Acute Non-Cancer Risk; PMI

## **APPENDIX B – PLANT AND WILDLIFE COMPENDIUM**

**Plants**  
**Vascular Species**  
*Eudicots*

**ANACARDIACEAE—SUMAC OR CASHEW FAMILY**

- \* *Schinus terebinthifolius*—Brazilian peppertree

**ASTERACEAE—SUNFLOWER FAMILY**

- \* *Cotula australis*—Australia waterbuttons
- \* *Erigeron bonariensis*—asthmaweed
- Erigeron canadensis*—Canadian horsetweed
- \* *Sonchus oleraceus*— common sowthistle

**CACTACEAE—CACTUS FAMILY**

- Opuntia occidentalis* —pricklypear

**CHENOPODIACEAE—GOOSEFOOT FAMILY**

- \* *Chenopodium macrospermum* —largeseed goosefoot
- \* *Chenopodium murale* —nettleleaf goosefoot

**FABACEAE—LEGUME FAMILY**

- \* *Acacia baileyana*— cootamundra wattle
- \* *Albizia lophantha*— plume albizia
- \* *Medicago polymorpha*—burclover

**FRANKENIACEAE—FRANKENIA FAMILY**

- Frankenia salina*—alkali heath

**JUGLANDACEAE—WALNUT FAMILY**

- \* *Juglans regia*—English walnut

**MALVACEAE—MALLOW FAMILY**

- \* *Malva parviflora*—cheeseweed mallow

**MORACEAE—MULBERRY FAMILY**

- \* *Ficus microcarpa*—Chinese banyan

**MYRTACEAE—MYRTLE FAMILY**

- \* *Eucalyptus globulus*—Tasmanian bluegum
- \* *Melaleuca viminalis*—weeping bottlebrush

**OXALIDACEAE—OXALIS FAMILY**

- \* *Eucalyptus citriodora*—Bermuda buttercup

**PLANTAGINACEAE—PLANTAIN FAMILY**

- \* *Plantago lanceolata*—narrowleaf plantain

**POLYGONACEAE—BUCKWHEAT FAMILY**

- \* *Polygonum aviculare*—prostrate knotweed

**ROSACEAE—ROSE FAMILY**

- \* *Rhaphiolepis indica*—Indian hawthorn

**SCROPHULARIACEAE—FIGWORT FAMILY**

- \* *Myoporum laetum*—myoporum

**SOLANACEAE—NIGHTSHADE FAMILY**

- \* *Brugmansia versicolor*—angel's trumpet

**URTICACEAE—NETTLE FAMILY**

- Urtica dioica*—stinging nettle

***Monocots***

**AGAVACEAE—AGAVE FAMILY**

- \* *Agave americana*—American century plant
- \* *Yucca elephantipes*—giant yucca

**ARACEAE—ARUM FAMILY**

- \* *Zantedeschia aethiopica*—calla lily

**ARECACEAE—PALM FAMILY**

- \* *Phoenix canariensis*—Canary Island date palm
- \* *Washingtonia robusta*—Washington fan palm

**ASPHODELACEAE—ASPHODEL FAMILY**

- \* *Aloe maculata*—no common name

**POACEAE—GRASS FAMILY**

- \* *Cynodon dactylon*—Bermudagrass
- Festuca californica*—California fescue
- \* *Festuca perennis*—perennial rye grass

**STRELITZIACEAE—NO COMMON NAME**

- \* *Strelitzia nicolai*—giant bird of paradise



## Wildlife

### Birds

#### *Finches*

#### FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

*Haemorhous mexicanus*—house finch

*Spinus tristis*—American goldfinch

#### *Flycatchers*

#### TYRANNIDAE—TYRANT FLYCATCHERS

*Sayornis nigricans*—black phoebe

#### *Hawks*

#### ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

*Buteo jamaicensis*—red-tailed hawk

#### *Hummingbirds*

#### TROCHILIDAE—HUMMINGBIRDS

*Calypte anna*—Anna's hummingbird

*Selasphorus rufus*—rufous hummingbird

#### *Jays, Magpies and Crows*

#### CORVIDAE—CROWS AND JAYS

*Aphelocoma californica*—California scrub-jay

*Corvus brachyrhynchos*—American crow

#### *Mockingbirds and Thrashers*

#### MIMIDAE—MOCKINGBIRDS AND THRASHERS

*Mimus polyglottos*—northern mockingbird

#### *New World Vultures*

#### CATHARTIDAE—NEW WORLD VULTURES

*Cathartes aura*—turkey vulture

*Pigeons and Doves*

**COLUMBIDAE—PIGEONS AND DOVES**

*Zenaida macroura*—mourning dove

\* *Streptopelia decaocto*—Eurasian collared-dove

*Rails, Gallinules and Coots*

**RALLIDAE—RAILS, GALLINULES, and COOTS**

*Fulica americana*—American coot

*Shorebirds*

**RECURVIROSTRIDAE—STILTS and AVOCETS**

*Himantopus mexicanus*—black-necked stilt

**CHARADRIIDAE—LAPWINGS AND PLOVERS**

*Charadrius vociferus*—killdeer

*Starlings and Allies*

**STURNIDAE—STARLINGS**

\* *Sturnus vulgaris*—European starling

*Terns and Gulls*

**LARIDAE—GULLS, TERNS, and SKIMMERS**

*Larus occidentalis*—western gull

*Waterfowl*

**ANATIDAE—DUCKS, GEESE, and SWANS**

*Anas platyrhynchos*—mallard

*Branta canadensis*—Canada goose

*Bucephala albeola*—bufflehead

*Cygnus columbianus*—Tundra swan

***Wood Warblers and Allies***

**PARULIDAE—WOOD-WARBLERS**

*Setophaga coronata*—yellow-rumped warbler

*Setophaga townsendi*—Townsend's warbler

*Leiothlypis celata*—orange-crowned warbler

***Woodpeckers***

**PICIDAE—WOODPECKERS AND ALLIES**

*Melanerpes formicivorus*—acorn woodpecker

***Wrentits***

**TIMALIIDAE—BABBLERS**

*Chamaea fasciata*—wrentit

***New World Sparrows***

**PASSERELLIDAE—NEW WORLD SPARROWS**

*Junco hyemalis*—dark-eyed junco

*Melospiza melodia*—song sparrow

*Melospiza crissalis*—California towhee

*Zonotrichia leucophrys*—white-crowned sparrow

**Mammals**

***Squirrels***

**SCIURIDAE—SQUIRRELS**

*Spermophilus (Otospermophilus) beecheyi*—California ground squirrel

\* = non-native or introduced species

## **APPENDIX C (CONFIDENTIAL) – CULTURAL RESOURCES**

Pursuant to CCR § 15120(d) the Cultural Resources Appendix is confidential and is only available to eligible individuals.

**APPENDIX D – GEOTECHNICAL EVALUATION REPORT (NINYO &  
MOORE, APRIL 2022)**

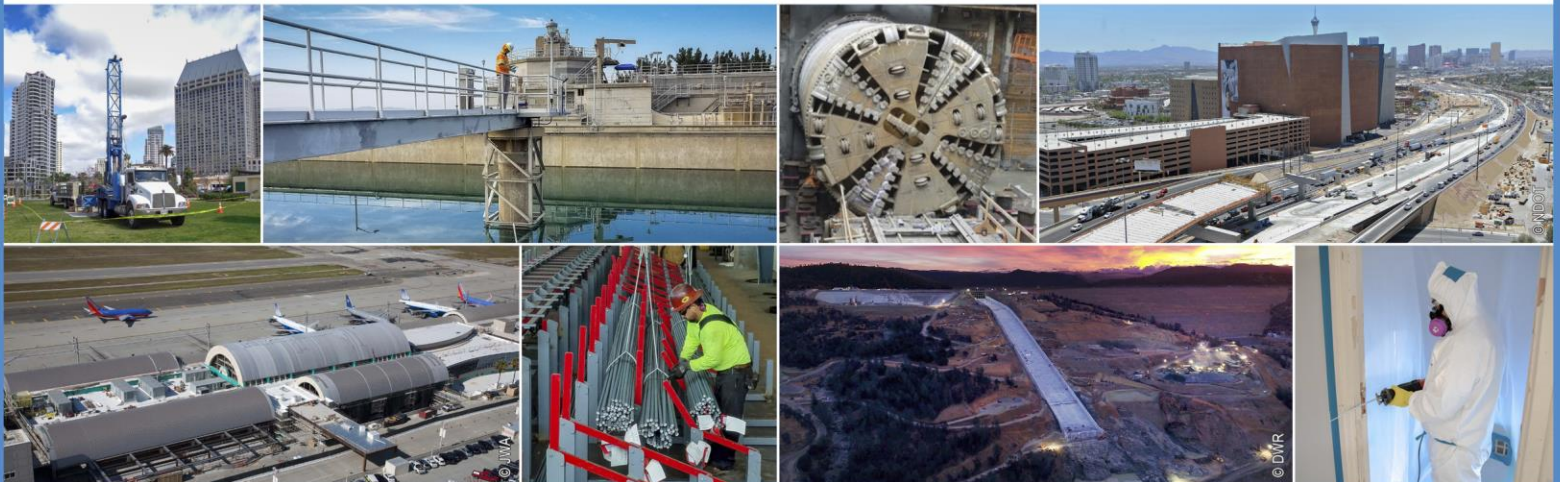
# Geotechnical Evaluation New FOG Receiving Station and Thermal Drying Facility

Goleta Sanitary District  
Goleta, California

Hazen and Sawyer

90 New Montgomery Street, Suite 333 | San Francisco, California 94105

April 22, 2022 | Project No. 211573002



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation  
New FOG Receiving Station and  
Thermal Drying Facility  
Goleta Sanitary District  
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# 1 INTRODUCTION

In accordance with your request and authorization, we have performed a geotechnical evaluation for the New Fats, Oil, and Grease (FOG) Receiving Station and Thermal Drying Facility as part of Phase 2 of the Biosolids and Energy Project at Goleta Sanitary District in Goleta, California (Figure 1). Ninyo & Moore previously submitted a Geotechnical Evaluation Report, dated January 29, 2021, for Phase 1 of the subject project, which addressed the design and construction of Digester 4. The current study intends to evaluate the soil and geologic conditions at the site and provide geotechnical recommendations for the design and construction of the proposed Phase 2 improvements. This report presents the findings from our background review and subsurface exploration, results of our laboratory testing, conclusions regarding the subsurface conditions at the site, and geotechnical recommendations for design and construction of this project.

## 2 SCOPE OF SERVICES

Our scope of services included the following:

- Project coordination, planning, and scheduling for the subsurface exploration.
- Review of readily available background materials, including published geologic and seismic hazards maps, previous reports, published literature, in-house information, stereoscopic aerial photographs, and reports and plans provided by the client.
- Obtaining a boring permit from the Santa Barbara County Public Health Department.
- A site reconnaissance, performed on March 2, 2022, to observe the general site conditions and locate the boring locations, and coordination with Goleta Sanitary District personnel and Underground Service Alert for utility clearance.
- Subsurface exploration including drilling, sampling, and logging of two small-diameter hollow-stem-auger (HSA) borings to depths of approximately 21.5 and 71 feet. The borings were logged in the field by our representative and relatively undisturbed and bulk samples were collected and returned to our laboratory for evaluation and testing. The borings were backfilled with cement-bentonite grout and excess cuttings were spread on site.
- Laboratory testing on selected soil samples including evaluation of in-situ moisture content and dry density, percent of soil particles finer than the No. 200 sieve, Atterberg limits, Modified Proctor density, direct shear strength, consolidation, and soil corrosivity characteristics (including pH, resistivity, and water soluble sulfates and chlorides).
- Two soil samples were collected to evaluate the possible chemicals present in the surficial sediments at the site. The samples were analyzed for volatile organic compounds (VOCs; EPA Method 8260B), total petroleum hydrocarbons carbon chain (TPHs; EPA Method 8015B), Title 22 Metals (EPA Method 6010B/7471A), polychlorinated biphenyls (PCBs; EPA Method 8082), organochlorine pesticides (EPA Method 8081A), and chlorinated herbicides (EPA Method 8151A).

- Data compilation and engineering analysis of the information from our background review, subsurface exploration, and laboratory testing.
- Preparation of this draft report presenting our findings, conclusions, and recommendations pertaining to the geotechnical aspects of the design and construction of the proposed improvements.

### **3 SITE DESCRIPTION AND PROPOSED CONSTRUCTION**

The subject site is located on the northern portion of Mescalitan Island and to the east of the Goleta Slough within the Goleta Basin in Santa Barbara County. The site is bounded to the north and west by the Santa Barbara Municipal Airport, which is located within the Goleta Slough. San Pedro Creek is located to the east of Goleta Sanitary District (Figure 1). Based on our review of historic topographic maps and aerial imagery (Historic Aerials, 2022), the site was undeveloped prior to the construction of different phases of the sanitary district during 1960s to 1980s. The subject area is relatively flat with elevations of approximately 30 feet above mean sea level (MSL) (United States Geological Survey [USGS], 2018).

The proposed improvements at the site include a new FOG receiving station and a thermal drying facility. The design plans and drawings for the proposed improvements were not available at the time of preparation of this report; however, we understand that two alternative locations, to the north and west of Digester 3, are currently considered for the new FOG receiving station. We understand that the proposed thermal drying facility will be located over an area previously used as a sludge-drying bed immediately to the west of the existing dewatered bio-solids conveyor bridge. This sludge-drying bed is an approximately 2 to 3-foot deep pit and the area is currently paved with a thin layer of asphalt concrete (approximately 2 inches thick).

Numerous above ground and buried pipelines, and other pad mounted equipment associated with the existing digesters and bio-filters are currently present within the proposed construction area. We understand that the proposed facility and equipment will be founded on spread and/or mat foundations. Based on our subsurface exploration, our communications with you, and the recommendations provided in the remainder of this report, we understand that the project will involve relatively shallow grading with excavations on the order of 3 feet prior to construction of the proposed improvements. However, some small equipment for the FOG receiving station might be located as deep as approximately 8 feet below grade.

### **4 SUBSURFACE EVALUATION AND LABORATORY TESTING**

Our geotechnical exploration was performed on March 11, 2022, to evaluate the subsurface conditions for the proposed thermal drying facility. The subsurface conditions within the area

proposed for the new FOG receiving station was addressed in our previous study (Ninyo & Moore, 2021a). The current subsurface evaluation consisted of the drilling, logging, and sampling of two HSA borings (i.e., B-1 and B-2). B-1 and B-2 were drilled using a truck-mounted drill rig utilizing 8-inch-diameter augers to depths of approximately 71 and 21.5 feet, respectively. The borings were logged in the field by a representative of Ninyo & Moore. Representative bulk and relatively undisturbed samples were collected from the borings at selected depths for laboratory testing. The approximate locations of the borings drilled as part of the current evaluation and those included in our 2021 study are presented on Figure 2. The logs of the borings are presented in Appendix A.

Geotechnical laboratory testing was performed on representative soil samples collected from the borings. The laboratory testing included evaluation of in-situ moisture content and dry density, percent of soil particles finer than the No. 200 sieve, Atterberg limits, Modified Proctor density, direct shear strength, consolidation, and soil corrosivity characteristics (including pH, resistivity, and water soluble sulfates and chlorides). The results of the in-situ moisture content and dry density tests are presented on the boring logs in Appendix A. The remaining laboratory testing results are presented in Appendix B.

In addition to the geotechnical laboratory testing, analytical testing was performed on two surficial samples collected at approximate depths of 1 and 2 feet below existing grade following industry standard sampling protocols. The soil samples were then transported in an ice-cooled chest, following chain-of-custody protocols to Enthalpy Analytical, a state of California-certified analytical laboratory for analysis. The soil samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, Total Petroleum Hydrocarbons (TPH) [gasoline, diesel and motor oil range] using EPA Method 8015M, Organochlorine pesticides using EPA Method 8081A, Chlorinated Herbicides using 8151A, poly-chlorinated biphenyls (PCBs) using EPA Method 8082 and Title 22 Metals using EPA Method 6010B/7471A.

VOCs, organochlorine pesticides, chlorinated herbicides, PCBs, and TPH (GRO-gasoline range organics, and ORO- oil range organics) were not reported exceeding the laboratory limits in either of the samples. Low concentration of TPH (DRO- diesel range organics) was reported at 16 mg/kg in the sample collected at 2 feet from B-1. This concentration does not exceed regulatory screening levels. If the soil represented by this sample is planned for excavation and disposal, it should be characterized as 'non-hazardous petroleum hydrocarbon impacted' waste. Reported metals concentrations were within the ranges of naturally occurring background metals in California soils (Arsenic has a 12 mg/kg screening level for California soils due to naturally occurring arsenic). The results of analytical testing are provided in Appendix C.

## 5 GEOLOGY AND SUBSURFACE CONDITIONS

### 5.1 Regional Geology

The project site is situated within the northwestern portion of the Transverse Ranges geomorphic province of southern California (Norris and Webb, 1990). The Transverse Ranges geomorphic province is characterized by generally east to west-trending mountain ranges and fault systems, and is generally underlain by thick sequences of marine sedimentary rock.

The project site is located on the Santa Barbara coastal alluvial plain south of the south flank of the Santa Ynez Mountains. The site vicinity is underlain by alluvium associated with deposition of sediments from Santa Ynez Mountains. Regional geologic mapping indicates that the site is underlain by older Pleistocene siltstone terrace deposits and Miocene-age siliceous deposits of the Monterey formation (USGS, 2006). A regional geologic map is shown in Figure 3.

### 5.2 Site Geology

The stratigraphy and subsurface conditions for the proposed thermal drying facility were evaluated during the geotechnical exploration performed as part of the current study. For a discussion on the site geology at the area proposed for the new FOG receiving station please refer to our previous study for Phase 1 of the project (Ninyo & Moore, 2021a).

Subsurface materials encountered during our current exploration consisted of asphalt concrete (AC) pavement sections, aggregate base (AB), Portland cement concrete (PCC), fill, and marine terrace deposits. An approximately 2-inch-thick layer of AC was encountered in both borings performed for this study. In boring B-1, the AC was underlain by an AB layer, approximately 6 inches thick, and a PCC layer, approximately 12 inches thick. The AB consisted of moist, medium dense, silty sand with gravel. The AC was underlain by fill materials to approximately 3 feet below ground surface in boring B-2, which comprised of moist, medium dense, silty sand.

The marine terrace deposits were encountered in both borings to the total depth explored (starting at a depth of approximately 2 feet in B-1 and 3 feet in B-2). The marine terrace deposits were composed of moist, very stiff to hard, lean clay to a depth of approximately 10 feet and soft to moderately hard silty claystone thereafter to the total depth explored. More detailed descriptions of the subsurface materials encountered during our subsurface exploration are presented on the boring logs in Appendix A.

### 5.3 Groundwater

Groundwater was not encountered at the time of drilling our exploratory borings. Groundwater was measured at a property located approximately 1,400 feet northeast of the site, on the east

side of San Pedro Creek, at depths as shallow as approximately 3 feet deep, which corresponds to an approximate elevation of 6 feet above MSL. Fluctuations in groundwater levels will occur due to variations in precipitation, ground surface topography, subsurface stratification, irrigation, groundwater pumping, and other factors that may not have been evident at the time of our field evaluation.

## **6 FAULTING AND SEISMICITY**

The site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion in the project area is considered significant during the design life of the proposed improvements. The approximate locations of major faults in the region and their geographic relationship to the project sites are shown on Figure 4. Based on our review of seismic hazard maps, geologic literature, and geologic maps, the site is not located within a State of California Earthquake Fault Zone (formerly known as Alquist-Priolo Special Studies Zone), and no active faults are known to cross the subject site (Hart and Bryant, 2007). The potentially active Mission Ridge and Red Mountain fault zones are located approximately 0.5 and 3.1 miles south of the site, respectively (USGS, 2008). The principal seismic hazards evaluated at the subject site are surface fault rupture, ground motion, liquefaction, dynamic compaction of dry soils, flood and tsunami hazards, and landslides. A brief description of these hazards and the potential for their occurrences on site are discussed in the following sections.

### **6.1 Surface Fault Rupture**

Based on our review of the referenced literature and our site reconnaissance, no faults that are considered active by the State of California are known to cross the project site. However, as described above, the site is located within the zone of More Ranch section of the Mission Ridge fault that is considered active by the County of Santa Barbara. A previous fault rupture study concluded that breaks or offset geologic units suggestive of tectonic faulting were not observed in the vicinity of the proposed improvements. Based on the findings from the prior surface fault rupture study, the probability of damage from surface ground rupture is considered to be low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

### **6.2 Site-Specific Ground Motion**

Considering the proximity of the sites to active faults capable of producing a maximum moment magnitude of 6.0 or more, the project area has a high potential for experiencing strong ground motion. The 2019 California Building Code (CBC) requires the risk-targeted maximum considered earthquake ( $MCE_R$ ) ground motion response accelerations to evaluate seismic loads for design of buildings and other structures. Based on the information from an available online database

(Wills et al. 2015; Thompson, 2018), the average shear wave velocity for the upper 30 meters of soil layers ( $V_{s,30}$ ) used in the seismic analysis was 293.5 meters per second. Accordingly, the site is classified as Site Class D. Per the 2019 CBC, site-specific ground motion hazard analysis needs to be performed following the guidelines presented in Sections 21.2 and 21.3 of American Society of Civil Engineers (ASCE) Publication 7-16 for soil deposits classified as Site Class D with mapped  $S_1$  (spectral response acceleration at a period of 1 second) greater than or equal to 0.2g. Since the  $S_1$  is 0.831g at the site (per ASCE 7-16, using the 2022 Applied Technology Council [ATC] web-based seismic design tool), site-specific ground motion hazard analysis was performed to evaluate the ground motion characteristics at the site.

The site-specific ground motion hazard analysis consisted of the review of available seismologic information for nearby faults and performance of probabilistic seismic hazard analysis (PSHA) and deterministic seismic hazard analysis (DSHA) to develop 5-percent-damped acceleration response spectrum (ARS) curves corresponding to the  $MCE_R$ . Prior to the site-specific ground motion hazard analysis, we obtained the mapped seismic ground motion values and developed the general  $MCE_R$  response spectrum for 5 percent damping in accordance with Section 11.4 of ASCE 7-16 (ATC, 2022).

The 2014 next generation attenuation (NGA) West-2 relationships were used to evaluate the site-specific ground motions. The NGA relationships used for developing the probabilistic and deterministic response spectra were those by Chiou and Youngs (2014), Campbell and Bozorgnia (2014), Boore, Stewart, Seyhan, and Atkinson (2014), and Abrahamson, Silva, and Kamai (2014). The Open Seismic Hazard Analysis software developed by USGS (Field et al., 2003) was used for performing the PSHA. The Calculation of Weighted Average 2014 NGA Models spreadsheet developed by the Pacific Earthquake Engineering Research Center was used for performing the DSHA (Seyhan, 2014).

PSHA was performed for earthquake hazards having a 2 percent probability of being exceeded in 50 years adjusted for the risk factors per ASCE 7-16. The maximum rotated components of 5-percent-damped ground motions were considered in PSHA. The DSHA considers accelerations from characteristic earthquakes on active faults within the region using the hazard curves and deaggregation plots at the site using the USGS Unified Hazard Tool application (USGS, 2022). A magnitude 7.4 event on the Red Mountain fault was deemed to be the controlling earthquake. The DSHA was performed for the site using this event and corrections were applied to spectral accelerations for the 84th percentile of the maximum rotated component of ground motion with 5 percent damping.



The site-specific  $MCE_R$  response spectrum was considered as the lesser of the PSHA and DSHA spectral response acceleration at any period, and the site-specific design response spectrum was determined by taking two-thirds of the  $MCE_R$  response spectrum with some conditions in accordance with Section 21.3 of ASCE 7-16. Figure 5 presents the site-specific  $MCE_R$  and design response spectra as well as the general mapped design response spectra calculated in accordance with Section 11.4 of ASCE 7-16. The site-specific spectral acceleration parameters, obtained from ground motion hazard analysis, are presented in Section 8.3 for evaluation of seismic loads on buildings and other structures. The site-specific  $MCE_G$  (maximum considered earthquake geometric mean) peak ground acceleration,  $PGA_M$ , was calculated as 1.04g.

### 6.3 Liquefaction Potential

Liquefaction is the phenomenon in which loosely deposited granular soils and non-plastic silts located below the water table undergo rapid loss of shear strength when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure, and causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Liquefaction is also known to occur in relatively fine-grained soils (i.e., sandy silt and clayey silt) with a plasticity index (PI) of less than 12 and an in-place moisture content more than 85 percent of the liquid limit (LL) and sensitive silts and clays with a PI more than 18. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

The Santa Barbara County Comprehensive Plan Seismic Safety & Safety Element (County of Santa Barbara, 2010) indicates that the subject site is located in an area with a moderate rating or liquefaction (Figure 6). However, given that the subsurface materials encountered during our exploration predominantly consist of hard, lean clay deposits and silty claystone, liquefaction and liquefaction-related seismic hazards (e.g., dynamic settlement, ground subsidence, and/or lateral spreading) are not a design consideration for the project.

### 6.4 Dynamic Compaction of Dry Soils

Relatively dry soils (e.g., soils above the groundwater table) with low density or softer consistency tend to undergo a degree of compaction during a seismic event. Earthquake shaking often induces significant cyclic shear strain in a soil mass, which responds to the vibration by undergoing volumetric changes. Volumetric changes in dry soils take place primarily through changes in the void ratio (usually contraction in loose or normally consolidated soft soils, and



dilation in dense or overconsolidated stiff soils) and secondarily through particle reorientation. Such volumetric changes are generally non-recoverable. Based on our subsurface exploration, the marine terrace deposits at the site generally consist of hard, lean clay and silty claystone deposits. Accordingly, it is our opinion that dynamic compaction of dry soils is not a design consideration for the project.

## 6.5 Flood and Tsunami Hazards

Based on our review of the City of Goleta Fire, Flood and Tsunami Hazards map (City of Goleta, 2016), the project site is not located in the 100-year Flood Hazard Zone, but is located within the 500-year flood zone (Figure 7). Tsunamis are long wavelength seismic, sea waves (long compared to ocean depth) generated by the sudden movements of the ocean floor during submarine earthquakes, landslides, or volcanic activity. The project area is not mapped within an area considered susceptible to tsunami inundation. Therefore, damage due to tsunamis is not a design consideration for this project.

## 6.6 Landslides

Based on our site reconnaissance and review of published geologic maps, and stereoscopic aerial photographs as well as review of the City of Goleta Geologic Hazards Map (City of Goleta, 2009), landslides are not considered to be a potential hazard at the site.

# 7 CONCLUSIONS

Based on our evaluation, it is our opinion that proposed construction is feasible from a geotechnical perspective, provided the recommendations presented in this report are incorporated into the design and construction of the project. In general, the following additional conclusions were made:

- The exploration performed as part of the current study addressed the subsurface conditions for the proposed thermal drying facility. Based on our study, the proposed thermal drying facility site is underlain by marine terrace deposits beneath the pavement. An approximately 2-inch-thick layer of AC was encountered in both borings. In boring B-1, the AC was underlain by an AB layer, approximately 6 inches thick, and a PCC layer, approximately 12 inches thick. The AB consisted of moist, medium dense, silty sand with gravel. The AC was underlain by fill materials to approximately 3 feet below ground surface in boring B-2, which generally comprised of moist, medium dense, silty sand. The marine terrace deposits were encountered in both borings to the total depth explored. The marine terrace deposits were composed of moist, very stiff to hard, lean clay to a depth of approximately 10 feet and soft to moderately hard silty claystone thereafter to the total depth explored.
- The subsurface conditions at the area proposed for the new FOG receiving station was evaluated in our 2021 study as part of Phase 1 of the subject project. Based on the referenced study, the FOG receiving station will be underlain by fill soils consisting of silty sand marine terrace deposits consisting of unconsolidated sand, silty sandstone and silty claystone, and siltstone bedrock materials of the Monterey Formation.

- Excavations for the construction of both FOG receiving station and thermal drying facility should be feasible with heavy duty equipment in good working condition.
- The on-site soils encountered in our borings for the proposed thermal drying facility (beneath the existing sludge-drying beds) may be subject to compression and are not considered suitable to support the proposed thermal drying facility foundations. In order to improve the bearing conditions, supporting the proposed foundations on 3 feet or more of granular materials is appropriate. The granular materials that will be generated during excavation of the FOG and the proposed new digester are anticipated to be suitable to support the new thermal drying facility foundations. However, the clayey soils may be used for general fill material beyond the limits of the new structures and for utility trench backfill, but should not be used as structure backfill for structures such as buried vaults. Placement of fill will involve moisture conditions to reach near-optimum moisture conditions.
- Although not encountered in our recent borings, the contractor should anticipate handling oversize materials during grading and construction. The limits of the buried concrete encountered beneath the sludge drying beds is unknown. Depending on the amount present, some of the concrete and asphalt concrete at the bottom of the sludge drying bed may be incorporated into the compacted fill, provided that the material is broken down to 4 inches in diameter or less and kept to a depth of 2 feet below the bottom of the foundations or finish ground surface.
- Groundwater was not encountered during our current subsurface exploration. Groundwater is not anticipated to be a design consideration for the project. Fluctuations in groundwater levels may occur due to variations in precipitation, ground surface topography, subsurface stratification, irrigation, groundwater pumping, and other factors which may not have been evident at the time of our field evaluation.
- Reported concentrations of chemicals did not exceed regulatory screening levels indicating contamination from external sources.
- The site soils are not subject to dynamic settlement due to earthquake-induced liquefaction or dynamic compaction of dry soils.
- The subject site is not located within a State of California Earthquake Fault Zone. However, the site is located near the More Ranch Fault, which is considered active by the County of Santa Barbara.
- Our limited laboratory corrosivity testing indicates that the on-site materials can be classified as corrosive based on the California Department of Transportation (Caltrans, 2021) corrosion guidelines.

## 8 RECOMMENDATIONS

The recommendations presented in the following sections provide geotechnical criteria regarding the design and construction of the proposed site improvements. The recommendations are based on the results of our subsurface evaluation, geotechnical analysis, and our project understanding. Detailed construction drawings and foundation loading information were not available at the time this report was prepared. We recommend that the final construction drawings be submitted to Ninyo & Moore for review to evaluate conformance to the geotechnical recommendations

provided in this report. Additional or revised recommendations may be appropriate. The proposed work should be performed in conformance with the recommendations presented in this report, project specifications, and appropriate agency standards.

## **8.1 Earthwork**

Based on our understanding of the project, earthwork at the site is anticipated to consist of site clearing, remedial grading to prepare the ground surface for the new structures, trenching and backfilling associated with underground utility installation, and finished grading for establishment of site drainage. It is our understanding that the approximately 2 to 3-foot deep sludge drying bed will be filled to the approximate surrounding grade. Earthwork operations at the site should be performed in accordance with the recommendations provided in the following sections of this report and applicable governing agencies.

### **8.1.1 Pre-Construction Conference**

We recommend that a pre-construction conference be held. The owner and/or their representative, the governing agencies' representatives, the civil engineer, the geotechnical engineer, and the contractor should attend to discuss the work plan, project schedule, and earthwork requirements.

### **8.1.2 Demolition, Clearing, and Grubbing**

Prior to performing excavations or other earthwork, the area should be cleared of existing structures, water piping under and above the ground, AC and PCC pavements, rubble and debris, abandoned utilities, surface obstructions, and other deleterious materials. Existing utilities within the project limits should be re-routed or protected from damage by construction activities. Materials generated from the clearing operations should be removed from the project site and disposed of at a legal dumpsite.

### **8.1.3 Excavation Characteristics**

Based on our field exploration, we anticipate that excavations at the site may be accomplished with conventional earthmoving equipment in good working condition. Excavations are not anticipated to encounter hard claystone and sandstone terrace deposit materials that would involve additional excavating effort. Contractors should make their own independent evaluation of the excavatability of the on-site materials prior to submitting their bids.

#### 8.1.4 Temporary Excavations and Shoring

We recommend that excavations be designed and constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations. These regulations provide shoring design parameters for excavations and trenches up to 20 feet deep based on the soil types encountered. Trenches over 20 feet deep should be designed by the contractor's engineer based on site-specific geotechnical analyses. For planning purposes, we recommend that alluvium be considered as OSHA Type C soil. For trench or other excavations, OSHA requirements regarding personnel safety should be met by using appropriate shoring or by laying back the slopes no steeper than 1½:1 (horizontal to vertical) in the alluvium. Temporary excavations that encounter seepage may need shoring or may be mitigated by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis.

Where slopes cannot be laid back, shoring may be appropriate. If shoring systems are used for site excavations, they should be designed for the anticipated soil conditions using the lateral earth pressure values presented on Figures 8 and 9 for cantilevered and braced shoring systems, respectively. The recommended design pressures are based on the assumption that the shoring system is constructed without raising the ground surface elevation behind the shored sidewalls of the excavation, that there are no surcharge loads, such as soil stockpiles and construction materials, and that no loads act above a 1:1 (horizontal to vertical) plane ascending from the base of the shoring system. For a shoring system subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on the lateral earth pressures acting on the shored walls.

We anticipate that settlement of the ground surface will occur behind the shored excavations. The amount of settlement depends heavily on the type of shoring system, the contractor's workmanship, and soil conditions. To reduce the potential for distress to adjacent improvements, we recommend that the shoring system be designed to limit the ground settlement behind the shoring system to ½ inch or less. Possible causes of settlement that should be addressed include settlement during installation of the shoring elements, excavation for structure construction, construction vibrations, and removal of the support system. We recommend that shoring installation be evaluated carefully by the contractor prior to construction and that ground vibration and settlement monitoring be performed during construction.

### **8.1.5 Subgrade Preparation**

After the site has been cleared of surface improvements and obstructions, remedial grading operations can be performed to support the construction of the proposed improvements. We understand that both FOG receiving station and thermal drying facility (after filling of the 2 to 3-foot deep sludge drying bed) will be constructed at grade. In order to provide suitable support and reduce the potential settlement, we recommend that remedial grading is performed to remove the existing fill materials beneath the pavements in the sludge drying bed to expose competent native terrace deposits prior to placing fill to reach the foundation subgrade elevation. In order to provide suitable foundation support, we recommend that the upper approximately 3 feet of fill below the bottom of the foundations consist of granular soil, as further described in the following section. The limits of the excavation should extend laterally so that the bottom of the excavation is approximately 3 feet beyond the edge of the foundations.

We understand that some equipment will be installed as deep as 8 feet below the existing grade. Additional overexcavation is not needed for these deeper features, provided that they are founded on exposed competent terrace deposits.

Prior to placing newly compacted fill or placing the below-grade equipment on the deeper competent materials, the exposed bottom should be scarified, moisture-conditioned, and recompacted to a depth of approximately 8 inches. The excavation bottoms should be evaluated by our representative during the excavation work. Additional overexcavation of loose, soft, and/or wet areas may be appropriate, depending on our observations during construction.

### **8.1.6 Fill Material**

Given that clayey materials were consistently encountered during our subsurface exploration for the thermal drying facility, the on-site soils are not suitable for use below the thermal drying facility foundations or as structure backfill for buried vaults. However, the clayey soils may be re-use as general fill beyond the structures and for trench backfill. Import materials should consist of clean, non-expansive, granular material, which conforms to the latest edition of “Greenbook” Standard Specifications for Public Works Construction for structure backfill in accordance with ASTM D 4829 (CBC, 2019). “Non-expansive” can be defined as soil having an EI of 20 or less in accordance with ASTM International (ASTM) D 4829 (CBC, 2019). Soil should also be tested for corrosive properties prior to importing. We recommend that the imported materials comply with the Caltrans (2018) criteria for non-corrosive soils (i.e., soils having a chloride concentration of 500 parts per million (ppm) or less, a soluble sulfate

content of approximately 0.15 percent [1,500 ppm] or less, a pH value of 5.5 or higher, and a resistivity of 1,100 ohm-centimeters [ohm-cm] or more). Materials for use as fill should be evaluated by the geotechnical consultant prior to importing. The contractor should be responsible for the uniformity of import material brought to the site.

### **8.1.7 Fill Placement and Compaction**

Fill placed for support of the proposed structures or other site improvements such as new vaults and trench backfill should be compacted in horizontal lifts to a relative compaction of 90 percent or more as evaluated by ASTM D 1557. Fill soils should be placed at slightly above the optimum moisture content as evaluated by ASTM D 1557. The optimum lift thickness of fill will depend on the type of compaction equipment used but generally should not exceed 8 inches in loose thickness. Placement and compaction of the fill soils should be in general accordance with appropriate governing agency grading ordinances and good construction practice.

## **8.2 Underground Utilities**

We anticipate that utility pipelines will be installed as a part of the subject project that will be supported on fill and, depending on the depths, on terrace deposits. The depths of the pipelines are not known; however, we anticipate that the pipe invert depths will not exceed 10 feet. Trenches should not be excavated adjacent to footing foundations of existing structures or earthen berms. If needed, trenches can be excavated adjacent to a continuous footing or berms provided that the bottom of the trench is located above a 1:1 plane projected downward from the bottom of the adjacent footing or toe of the berm. Utility lines that cross beneath footings or berms should be encased in concrete below the footing/berm.

### **8.2.1 Pipe Bedding**

We recommend that pipelines be supported on 6 inches or more of granular bedding material such as sand with a sand equivalent value of 30 or more. Bedding material should be placed and compacted around the pipe, and 12 inches or more above the top of the pipe in accordance with the current “Greenbook” Standard Specifications for Public Works. We do not recommend the use of crushed rock for bedding material. It has been our experience that the voids within a crushed rock material are sufficiently large enough to allow fines to migrate into the voids, thereby creating the potential for sinkholes and depressions to develop at the ground surface. Special care should be taken not to allow voids beneath and around the pipe.

Where soft, wet soil conditions are encountered, the trench excavation should be excavated approximately 1 to 2 feet or more below the pipe invert and should be backfilled with gravel

wrapped in filter fabric. Bedding material and compaction requirements should be in accordance with the recommendations of this report, the project specifications, and applicable requirements of the appropriate agencies. Compaction of the bedding material and backfill should proceed along both sides of the pipe concurrently and be compacted to 90 percent or more relative compaction as evaluated by ASTM D 1557.

### 8.2.2 Modulus of Soil Reaction

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed on the sides of buried flexible pipelines for the purpose of evaluating lateral deflection caused by the weight of the backfill above the pipe. We recommend that a modulus of soil reaction of 1,000 pounds per square inch (psi) be used for design, provided that relatively granular bedding material is placed adjacent to the pipe, as recommended in this report.

## 8.3 Site-Specific Seismic Design Considerations

Seismic design of the proposed improvements should be performed in accordance with the requirements of the governing jurisdictions and applicable building codes. Table 1 presents the site-specific spectral response acceleration parameters in accordance with the CBC (2019) guidelines.

| Table 1 – 2019 California Building Code Seismic Design Criteria                            |        |
|--------------------------------------------------------------------------------------------|--------|
| Site-Specific Spectral Response Acceleration Parameters                                    | Value  |
| Site Class                                                                                 | D      |
| Mapped Spectral Response Acceleration at 0.2-second Period, $S_s$                          | 2.370g |
| Mapped Spectral Response Acceleration at 1.0-second Period, $S_1$                          | 0.831g |
| Site-Modified Spectral Response Acceleration at 0.2-second Period, $S_{MS}$                | 2.373g |
| Site-Modified Spectral Response Acceleration at 1.0-second Period, $S_{M1}$                | 2.224g |
| Design Spectral Response Acceleration at 0.2-second Period, $S_{DS}$                       | 1.582g |
| Design Spectral Response Acceleration at 1.0-second Period, $S_{D1}$                       | 1.483g |
| Maximum Considered Earthquake Geometric Mean ( $MCE_G$ ) Peak Ground Acceleration, $PGA_M$ | 1.040g |

## 8.4 Foundations

The proposed structures may be supported on shallow foundations including square and continuous footings and mat foundations. Foundations should be designed in accordance with structural considerations and the following recommendations. When construction drawings and foundation loading information are available, they should be forwarded to our office for review. Additional or revised recommendations may be appropriate. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in the design of the structures.



#### **8.4.1 Square and Continuous Foundations**

Square and continuous footings should be at least 24 inches wide and extend 24 inches or more below the adjacent finished grade. Spread footings should be reinforced with a minimum of two No. 4 steel reinforcing bars, one placed near the top and one placed near the bottom of the footings, and further detailed in accordance with the recommendations of the structural engineer. Given that the subsurface conditions encountered at the location of proposed thermal facility is different than that encountered for the FOG receiving station, the bearing capacity recommendation is also different for each structure.

For the proposed thermal facility, footings may be designed using an allowable bearing capacity of 2,500 pounds per square foot (psf). The allowable bearing capacity may be increased by one-third when considering loads of short duration such as wind or seismic forces. Please note that the allowable bearing capacity cannot be increased for footings of different size and/or embedment depth.

The footings for the FOG receiving station may be designed using an allowable bearing capacity of 3,000 pounds per square foot (psf). The allowable bearing capacity may be increase by 400 and 800 psf for each additional foot of width and depth, respectively, to a value of 5,000 psf. The allowable bearing capacity may be increased by one-third when considering loads of short duration such as wind or seismic forces.

Total and differential settlements for footings designed and constructed in accordance with the above recommendations are estimated to be less than approximately 1 inch and ½ inch over a horizontal span of 40 feet, respectively. Footings bearing on compacted fill may be designed using a coefficient of friction of 0.35, where the total frictional resistance equals the coefficient of friction times the dead load. Footings may be designed using a passive resistance of 350 psf per foot of depth for level ground condition up to a value of 3,500 psf. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces.

#### **8.4.2 Mat Foundations**

We understand that the proposed thermal drying facility might be supported on a mat foundation. Mat foundations should be founded approximately 2 feet below the adjacent finish grade and designed using a net allowable bearing capacity of 2,500 psf and a coefficient of friction for sliding resistance of 0.35. Under the static loading condition, the total and



differential settlement corresponding to this allowable bearing load are estimated to be less than approximately 1 inch and ½ inch over a horizontal span of 30 feet, respectively.

Mat foundations typically experience some deflection due to loads placed on the mat and the reaction of the soils directly underlying the mat. A design modulus of subgrade reaction (K) of 30 kips per cubic foot (kcf) may be used for the subgrade soils in evaluating such deflections.

## 8.5 Slabs-On-Grade

Floor slabs subjected to dead and live loads should be designed by the project structural engineer based on the anticipated loading conditions. Floor slabs should be underlain by compacted soil prepared with the recommendations presented in this report. We recommend that slabs be 6 inches thick and reinforced with No. 4 steel reinforcing bars placed 24 inches on-center (each way) placed near the mid-height of the slab. The placement of the reinforcement in the slab is vital for satisfactory performance. The floor slab and foundation should be tied together by extending the slab reinforcements into the foundation.

The slab should be underlain by a 4-inch-thick, or more, layer of sand or gravel with a particle size of approximately 3/8-inch or smaller. Soils underlying the slab should be moisture-conditioned and compacted in accordance with the recommendations presented in this report prior to concrete placement. Joints should be constructed at intervals designed by the structural engineer to help reduce random cracking of the slab.

## 8.6 Corrosivity

Laboratory testing was performed on one representative soil sample to evaluate pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with California Test Method (CT) 643. Chloride content test was performed in general accordance with CT 422. Sulfate testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B.

The results of the corrosivity testing indicated a soil pH of 7.2. The electrical resistivity was 683 ohm-cm; the chloride content was 240 ppm; the sulfate content was 0.036 percent (i.e., 360 ppm). Based on the laboratory test results and Caltrans (2021) criteria, the soils at the project site can be classified as corrosive, which is defined as having earth materials with more than 500 ppm chlorides, more than 1,500 ppm sulfates, a pH of 5.5 or less and an electrical resistivity of 1,500 ohm-cm or less. Due to the close proximity to the ocean, we recommend that the proposed

concrete members be designed in accordance with American Concrete Institute Standard Guidelines ACI 318-19 (ACI, 2019).

## **8.7 Concrete Placement**

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. Based on the CBC criteria, the potential for sulfate attack is negligible for water-soluble sulfate contents in soil ranging from 0.00 to 0.10 percent by weight. The soil sample tested for this evaluation, using Caltrans Test Method 417, indicates a water-soluble sulfate content of 0.036 percent by weight (i.e., 360 ppm). Accordingly, the on-site soils are considered to have a negligible potential for sulfate attack. However, due to the potential variability of the soils on site, consideration should be given to using Type II/V cement for the project.

In order to reduce the potential for shrinkage cracks in the concrete during curing, we recommend that the concrete for the proposed structures be placed with a slump of 4 inches based on ASTM C 143. The slump should be checked periodically at the site prior to concrete placement. We further recommend that concrete cover over reinforcing steel for foundations be provided in accordance with CBC (2019). The structural engineer should be consulted for additional concrete specifications.

## **8.8 Drainage**

Proper surface drainage is imperative for performance of site improvements. Positive drainage should be provided and maintained to transport surface water away from foundations and other site improvements. Positive drainage incorporates a slope of 2 percent or more over a distance of 5 feet or more away from structures, pavements, and top of slopes. Surface water should not be allowed to flow over slope faces or pond adjacent to footings.

# **9 CONSTRUCTION OBSERVATION**

The recommendations provided in this report are based on our understanding of the proposed project and our evaluation of the data collected based on subsurface conditions observed in our exploratory borings. It is imperative that the geotechnical consultant checks the subsurface conditions during construction.

During construction, we recommend that the duties of the geotechnical consultant include, but not be limited to:

- Observing clearing, grubbing, and removals.

- Observing remedial grading excavation bottoms, and placement and compaction of fill, including trench backfill.
- Evaluating on-site soil for suitability as use as engineered fill/structural backfill prior to placement.
- Evaluating imported materials prior to their use as fill, if used.
- Performing field tests to evaluate fill compaction.
- Observing foundation excavations for bearing materials and cleaning prior to placement of reinforcing steel or concrete.
- Performing material testing services including concrete compressive strength and steel tensile strength tests and inspections.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that the services of Ninyo & Moore are not utilized during construction, we request that the selected consultant provide the owner with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this report.

## 10 LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

## 11 REFERENCES

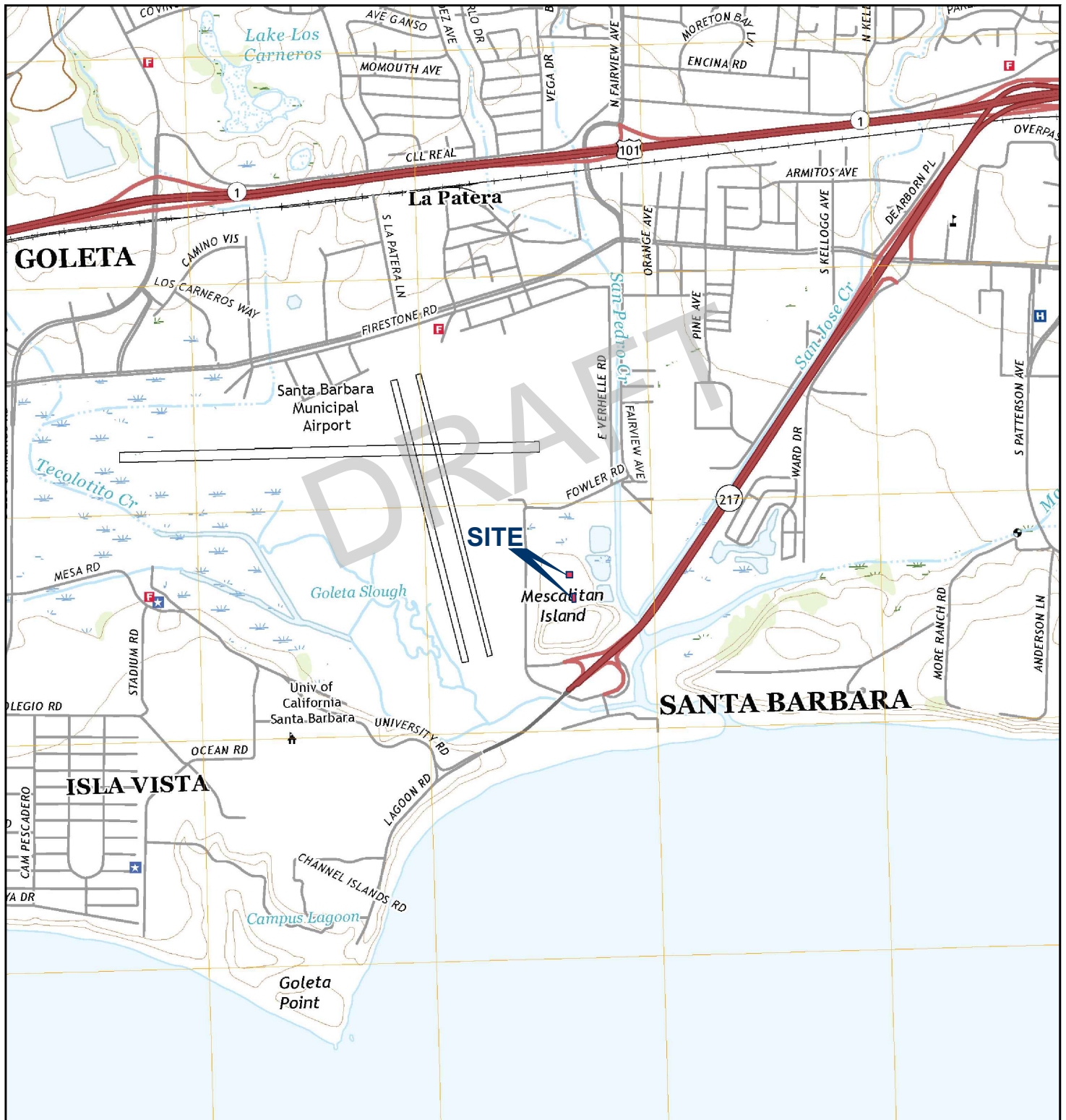
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## FIGURES





NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: USGS, 2018.

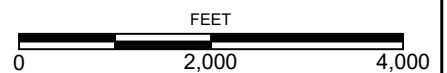
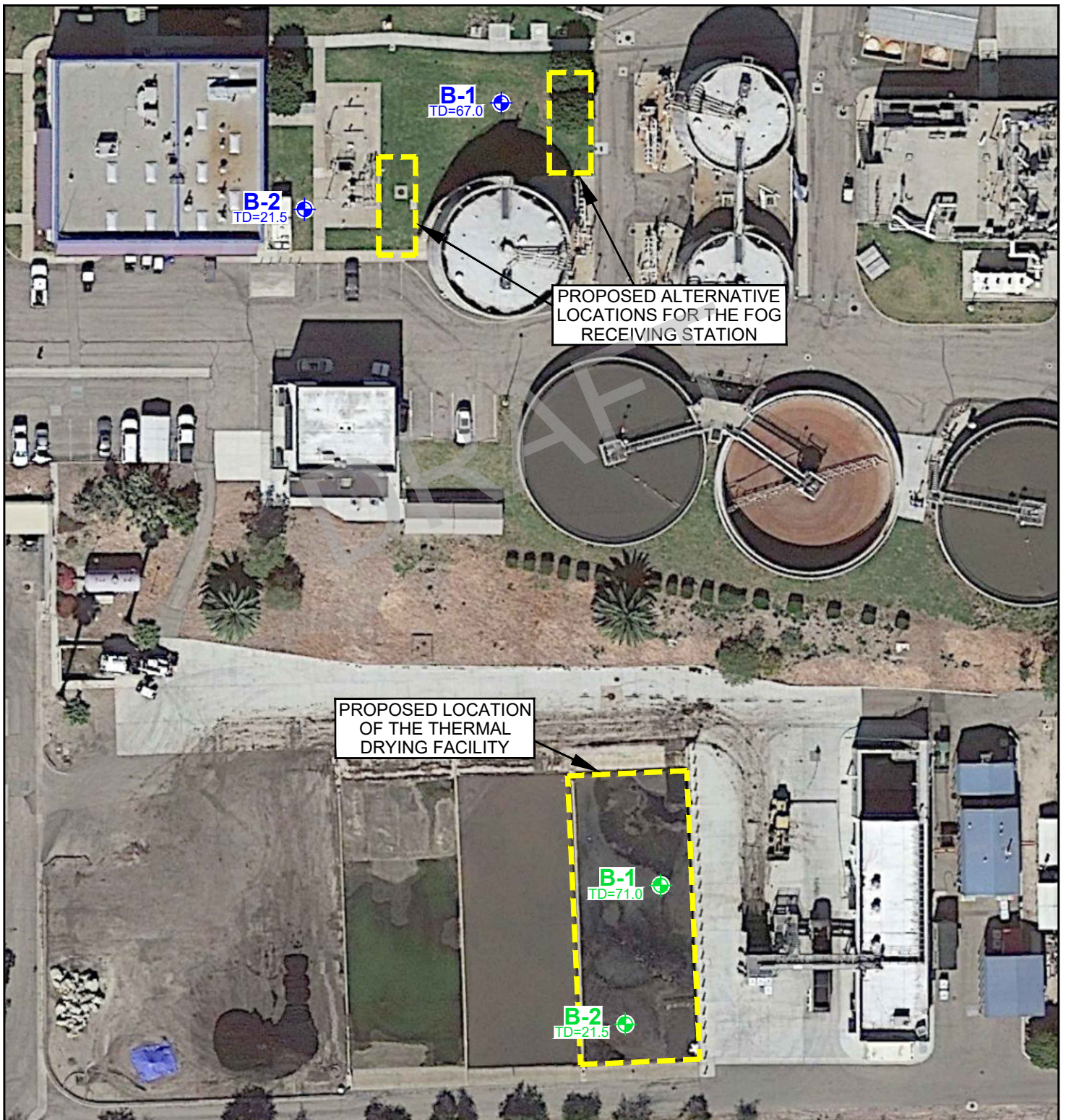


FIGURE 1





#### LEGEND

- B-1**  
TD=21.5
- B-2**  
TD=21.5
- BORING (2022);  
TD=TOTAL DEPTH IN FEET
- BORING (2020);  
TD=TOTAL DEPTH IN FEET

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: GOOGLE EARTH, 2022.

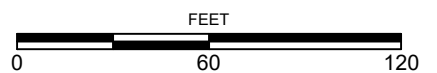


FIGURE 2





Qb  
Qe  
Qmt  
QTst

SILTSTONE UNIT

GEOLOGIC CONTACT



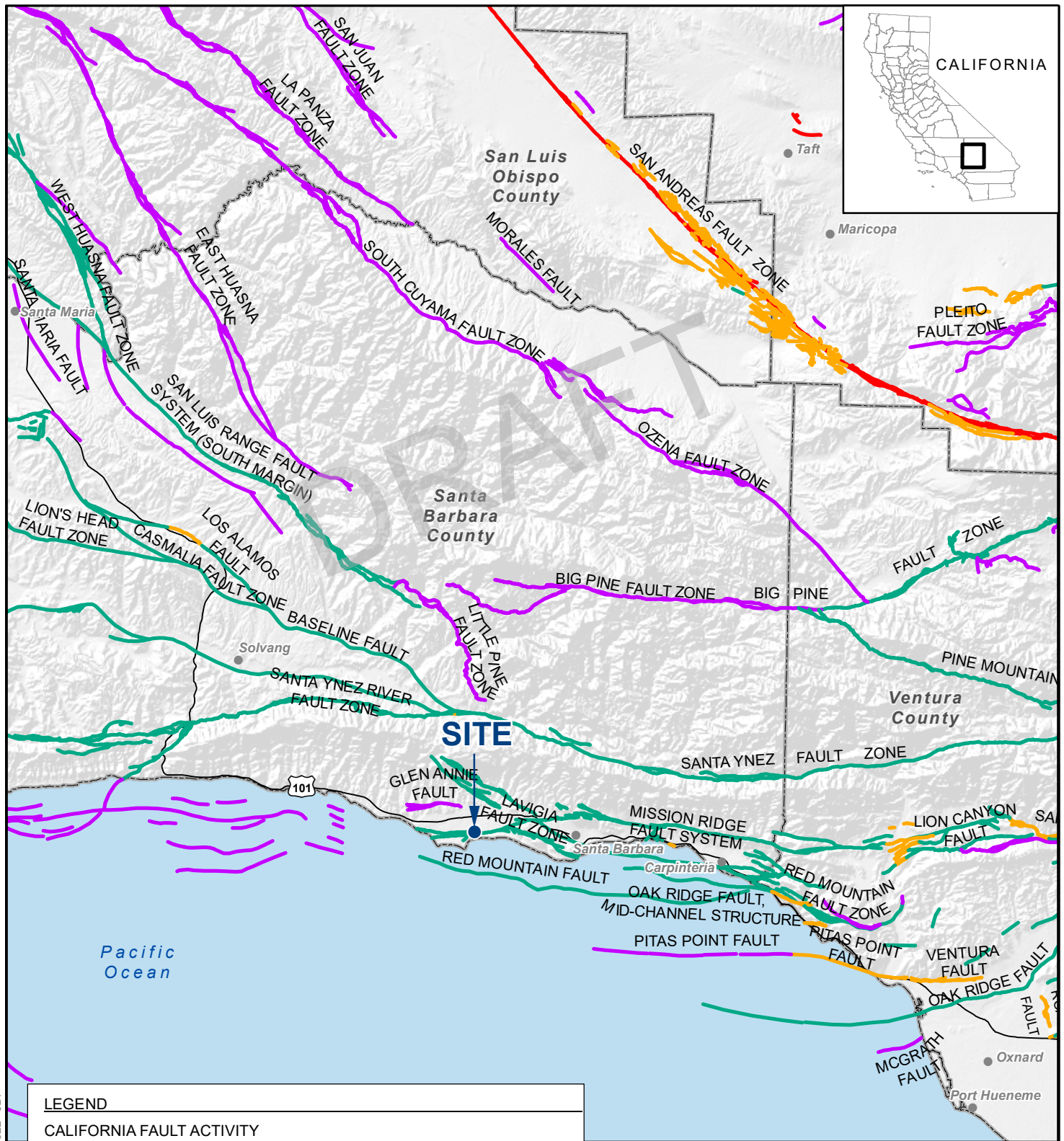
| Number of children | Number of families |
|--------------------|--------------------|
| 0                  | 1,000              |
| 1                  | 1,500              |
| 2                  | 2,000              |
| 3                  | 1,000              |
| 4                  | 500                |

### FIGURE 3

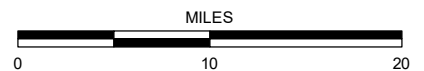
**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

211573002 | 4/22





NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



**FIGURE 4**

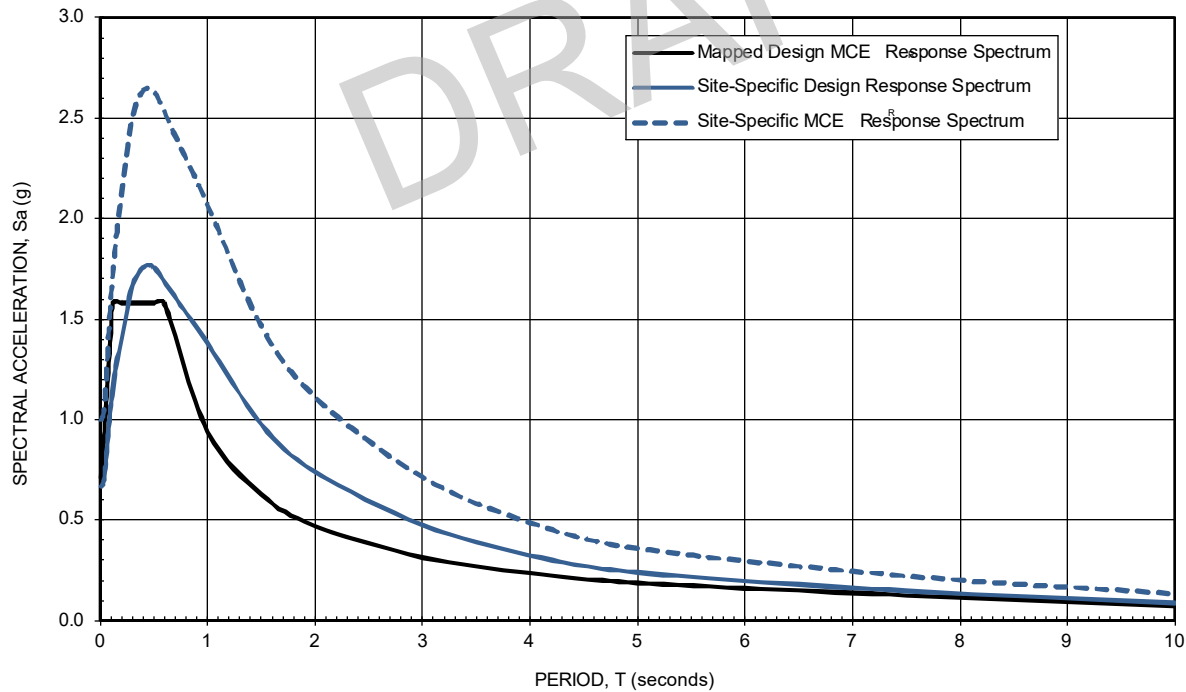
## FAULT LOCATIONS

NEW FOG RECEIVING STATION AND THERMAL DRYING FACILITY  
GOLETA, CALIFORNIA

| PERIOD<br>(seconds) | SITE-SPECIFIC<br>MCE <sub>R</sub> RESPONSE<br>SPECTRUM<br>S <sub>a</sub> (g) | SITE-SPECIFIC<br>DESIGN RESPONSE<br>SPECTRUM<br>S <sub>a</sub> (g) |
|---------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 0.010               | 1.001                                                                        | 0.667                                                              |
| 0.020               | 1.007                                                                        | 0.672                                                              |
| 0.030               | 1.026                                                                        | 0.684                                                              |
| 0.050               | 1.142                                                                        | 0.761                                                              |
| 0.075               | 1.380                                                                        | 0.920                                                              |
| 0.100               | 1.602                                                                        | 1.068                                                              |
| 0.150               | 1.901                                                                        | 1.267                                                              |
| 0.200               | 2.112                                                                        | 1.408                                                              |
| 0.250               | 2.313                                                                        | 1.542                                                              |
| 0.300               | 2.505                                                                        | 1.670                                                              |
| 0.400               | 2.637                                                                        | 1.758                                                              |

| PERIOD<br>(seconds) | SITE-SPECIFIC<br>MCE <sub>R</sub> RESPONSE<br>SPECTRUM<br>S <sub>a</sub> (g) | SITE-SPECIFIC<br>DESIGN<br>RESPONSE<br>SPECTRUM<br>S <sub>a</sub> (g) |
|---------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 0.500               | 2.636                                                                        | 1.758                                                                 |
| 0.750               | 2.353                                                                        | 1.569                                                                 |
| 1.000               | 2.069                                                                        | 1.379                                                                 |
| 1.500               | 1.466                                                                        | 0.977                                                                 |
| 2.000               | 1.112                                                                        | 0.741                                                                 |
| 3.000               | 0.713                                                                        | 0.475                                                                 |
| 4.000               | 0.487                                                                        | 0.325                                                                 |
| 5.000               | 0.359                                                                        | 0.239                                                                 |
| 7.500               | 0.222                                                                        | 0.148                                                                 |
| 10.000              | 0.133                                                                        | 0.089                                                                 |

$S_{DS} = 1.582 \text{ g}$   $S_{D1} = 1.483 \text{ g}$   $S_{MS} = 2.373 \text{ g}$   $S_{M1} = 2.224 \text{ g}$   $PGA_M = 1.040 \text{ g}$



#### NOTES:

- 1 The probabilistic ground motion spectral response accelerations are based on the risk-targeted Maximum Considered Earthquake (MCE<sub>R</sub>) having a 2% exceedance in 50 years in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships and the risk coefficients.
- 2 The deterministic ground motion spectral response accelerations are for the 84th percentile of the geometric mean values in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships for deep soil sites considering a Mw 7.4 earthquake on the Red Mountain Fault fault zone located 4.1 kilometers from the site. It conforms with the lower bound limit per ASCE 7-16 Section 21.2.2.
- 3 The Site-Specific MCE<sub>R</sub> Response Spectrum is the lesser of spectral ordinates of deterministic and probabilistic accelerations at each period per ASCE 7-16 Section 21.2.3. The Site-Specific Design Response Spectrum conforms with lower bound limit per ASCE 7-16 Section 21.3.
- 4 The Mapped Design MCE<sub>R</sub> Response Spectrum is computed from mapped spectral ordinates modified for Site Class D (stiff soil profile) per ASCE 7-16 Section 11.4. It is presented for the sake of comparison.

**FIGURE 5**

#### ACCELERATION RESPONSE SPECTRA

NEW FOG RECEIVING STATION AND THERMAL DRYING FACILITY  
GOLETA, CALIFORNIA



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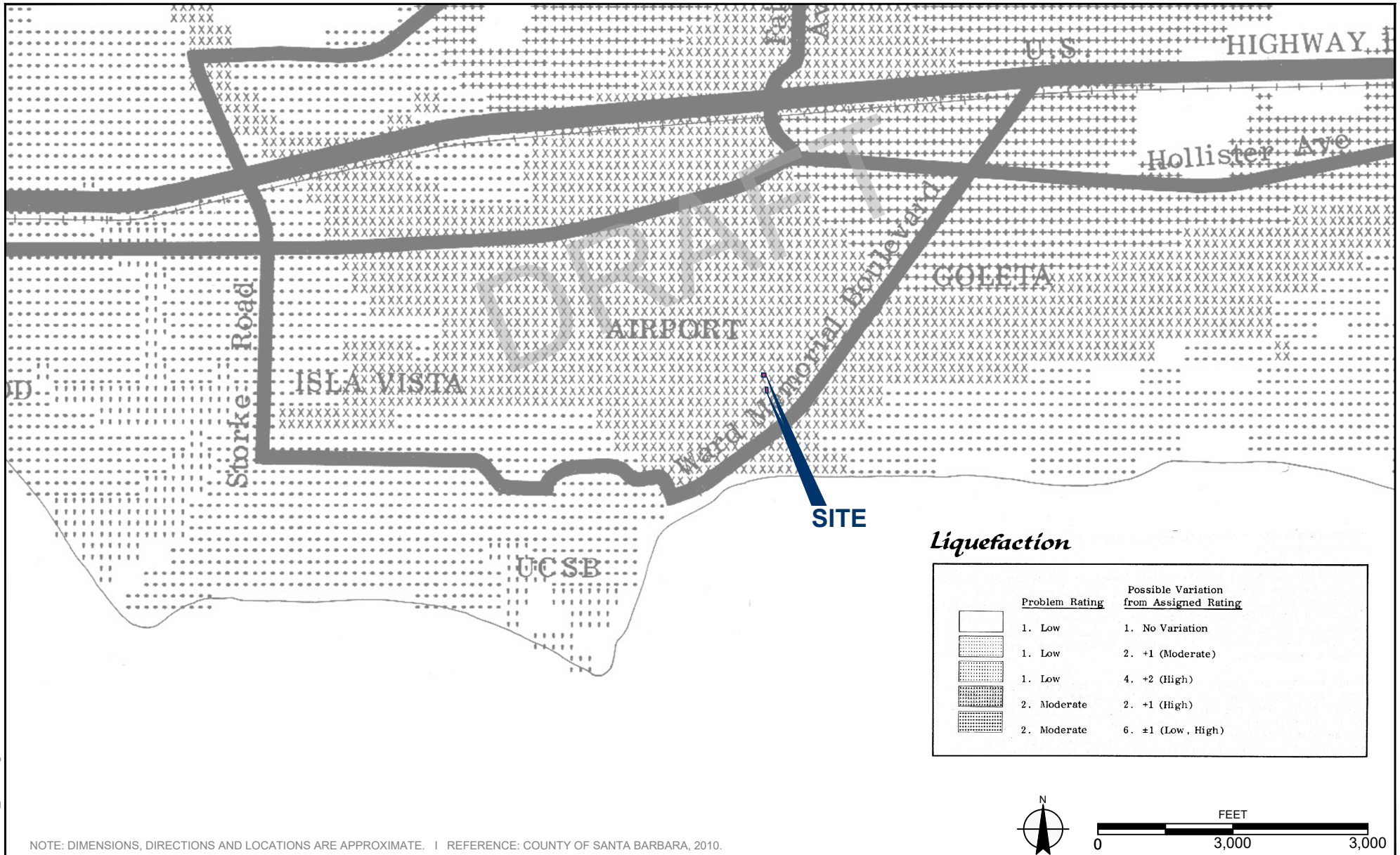
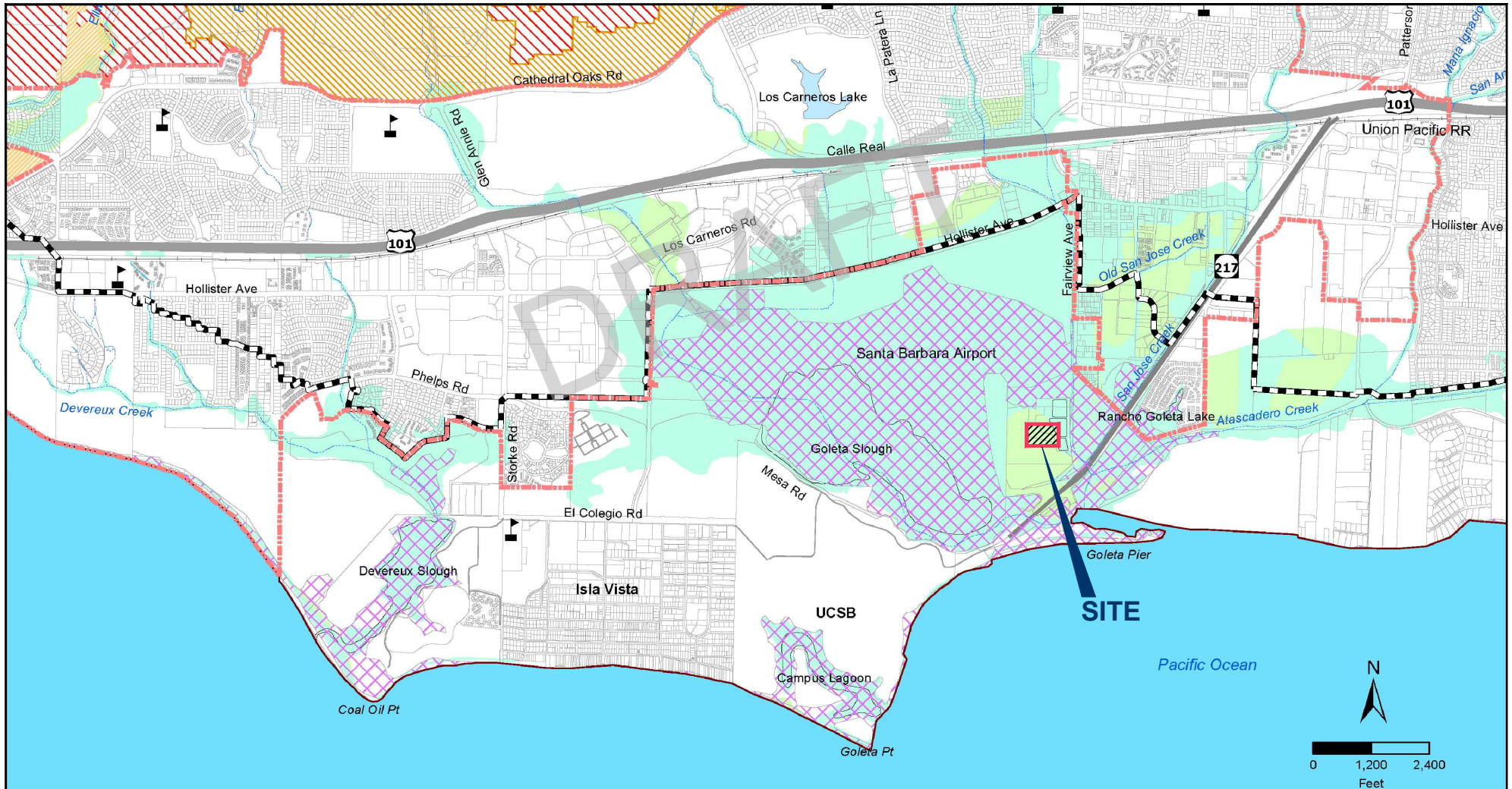


FIGURE 6





# LEGEND

## Flood Hazard

- 500 Year Flood Zone
- 100 Year Flood Zone

## Fire Hazard Severity Zones

- State Responsibility Area
- Moderate
- High
- Very High

## Tsunami Hazard

- Tsunami Inundation Area

## Other Features

- Goleta City Boundary
- Coastal Zone
- Creeks
- Schools

## Source:

The fire hazard severity zones were obtained from the California Department of Forestry and Fire Protection Fire Hazard Severity Zones map dated 11/07/07. The 100 and 500 year flood zone was mapped by the Federal Emergency Management Agency (FEMA), per flood Insurance Rate Map (FIRM) dated September 30, 2005. The tsunami inundation area was modeled by the University of Southern California, funded through the California Emergency Management Agency by the National Tsunami Hazard Mitigation Program, and depicted on the Tsunami Map for Emergency Planning, Dos Pueblos Canyon and Goleta Quadrangles, dated 01/31/09.

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE:

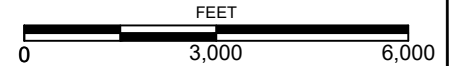
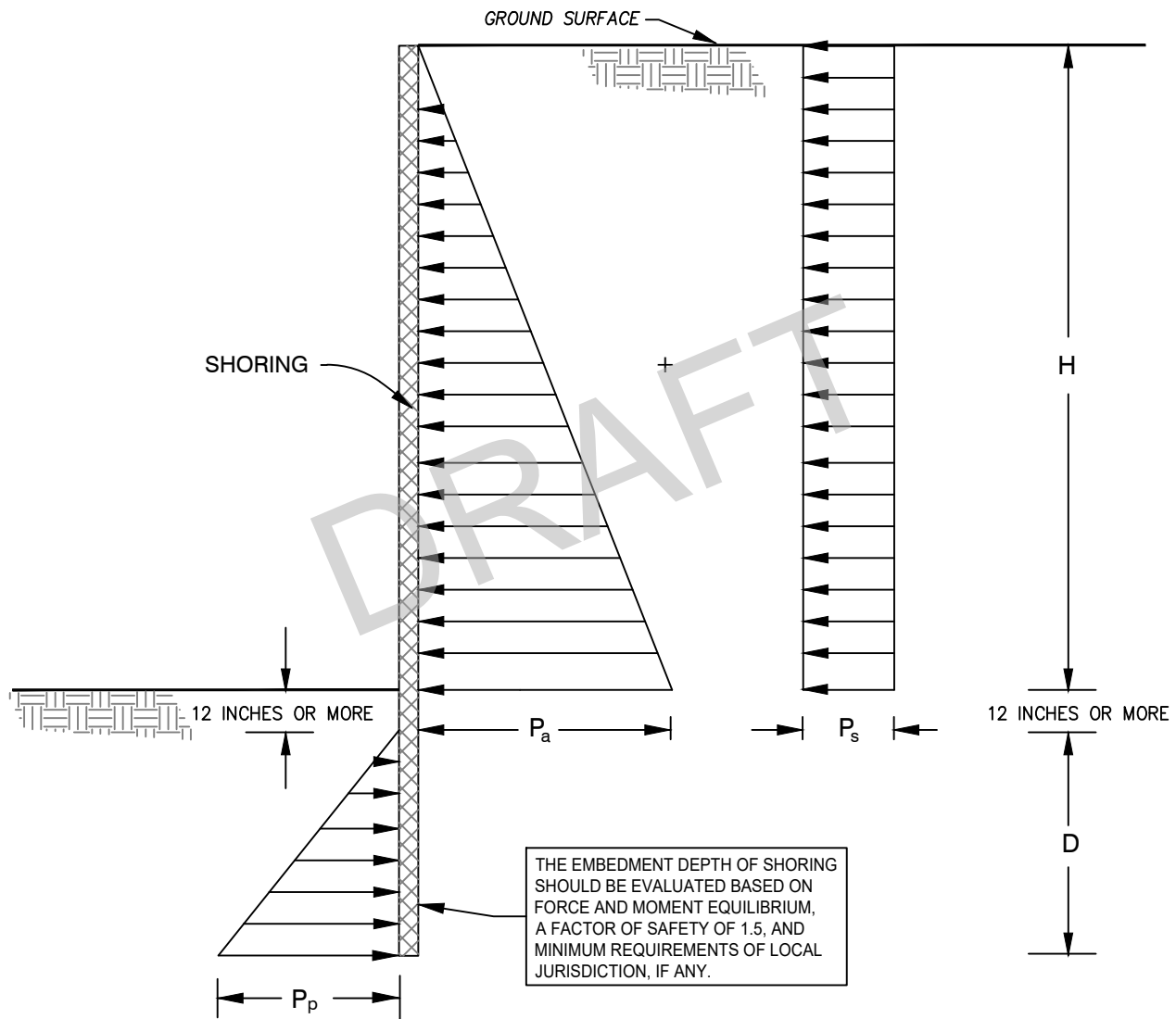


FIGURE 7



**NOTES:**

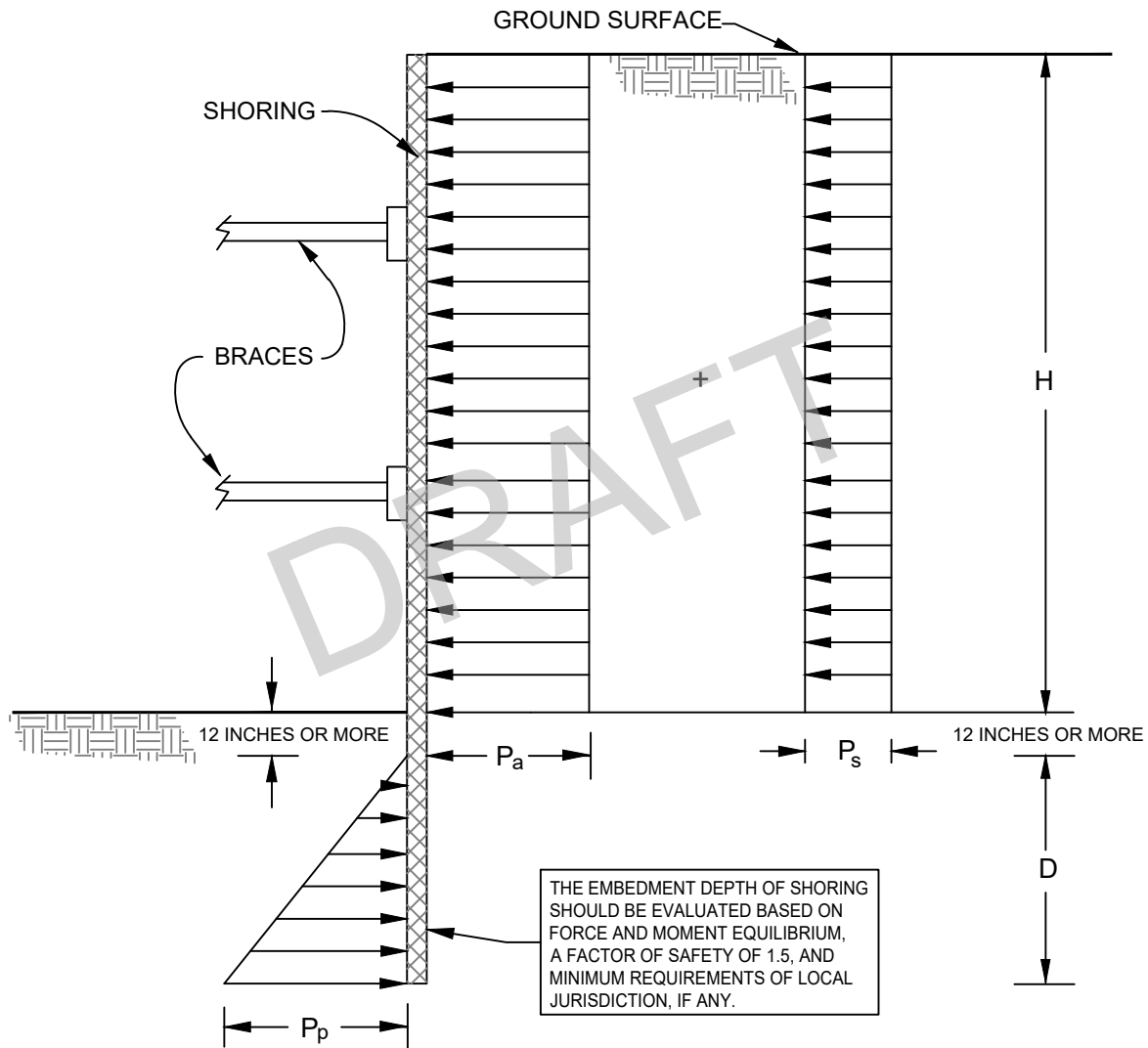
1. ACTIVE LATERAL EARTH PRESSURE,  $P_a$   
 $P_a = 33H$  psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE,  $P_s$   
 $P_s = 72$  psf
3. PASSIVE LATERAL EARTH PRESSURE,  $P_p$   
 $P_p = 350D$  psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. H AND D ARE IN FEET

NOT TO SCALE

**FIGURE 8**

**LATERAL EARTH PRESSURES FOR  
TEMPORARY CANTILEVERED SHORING**

NEW FOG RECEIVING STATION AND THERMAL DRYING FACILITY  
GOLETA, CALIFORNIA



**NOTES:**

1. APPARENT LATERAL EARTH PRESSURE,  $P_a$   
 $P_a = 22H$  psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE,  $P_s$   
 $P_s = 120$  psf
3. PASSIVE LATERAL EARTH PRESSURE,  $P_p$   
 $P_p = 350D$  psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

NOT TO SCALE

**FIGURE 9**

**LATERAL EARTH PRESSURES  
FOR BRACED EXCAVATION**

NEW FOG RECEIVING STATION AND THERMAL DRYING FACILITY  
GOLETA, CALIFORNIA



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# APPENDIX A

## Boring Logs

# APPENDIX A

## BORING LOGS

### **Field Procedure for the Collection of Disturbed Samples**

Disturbed soil samples were obtained in the field using the following method.

#### **Bulk Samples**

Bulk samples of representative earth materials were obtained from the exploratory drilling. The samples were bagged and transported to the laboratory for testing.

#### **The Standard Penetration Test (SPT) Sampler**

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of 1-3/8 inches. The sampler was driven into the ground 12 to 18 inches with a 140-pound hammer falling freely from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

### **Field Procedure for the Collection of Relatively Undisturbed Samples**

Relatively undisturbed soil samples were obtained in the field using the following method.

#### **The Modified Split-Barrel Drive Sampler**

The sampler, with an external diameter of 3 inches, was lined with 1-inch-long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a hammer in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

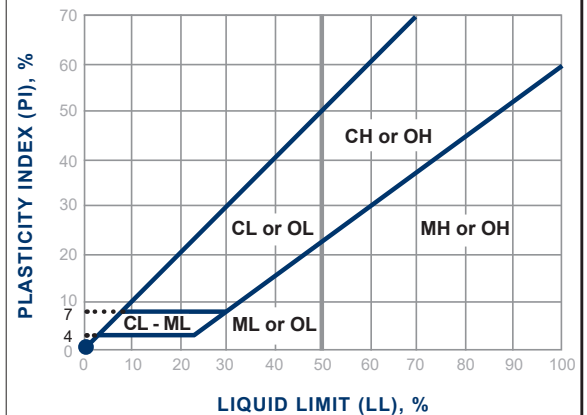
## Soil Classification Chart Per ASTM D 2488

| Primary Divisions                                                      |                                                                           |                                                     | Secondary Divisions             |                                |
|------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|--------------------------------|
|                                                                        |                                                                           |                                                     | Group Symbol                    | Group Name                     |
| <b>COARSE-GRAINED SOILS</b><br>more than 50% retained on No. 200 sieve | <b>GRAVEL</b><br>more than 50% of coarse fraction retained on No. 4 sieve | CLEAN GRAVEL<br>less than 5% fines                  | GW                              | well-graded GRAVEL             |
|                                                                        |                                                                           |                                                     | GP                              | poorly graded GRAVEL           |
|                                                                        |                                                                           | GRAVEL with DUAL CLASSIFICATIONS<br>5% to 12% fines | GW-GM                           | well-graded GRAVEL with silt   |
|                                                                        |                                                                           |                                                     | GP-GM                           | poorly graded GRAVEL with silt |
|                                                                        |                                                                           |                                                     | GW-GC                           | well-graded GRAVEL with clay   |
|                                                                        |                                                                           |                                                     | GP-GC                           | poorly graded GRAVEL with clay |
|                                                                        |                                                                           | GRAVEL with FINES<br>more than 12% fines            | GM                              | silty GRAVEL                   |
|                                                                        |                                                                           |                                                     | GC                              | clayey GRAVEL                  |
|                                                                        |                                                                           |                                                     | GC-GM                           | silty, clayey GRAVEL           |
|                                                                        | <b>SAND</b><br>50% or more of coarse fraction passes No. 4 sieve          | CLEAN SAND<br>less than 5% fines                    | SW                              | well-graded SAND               |
|                                                                        |                                                                           |                                                     | SP                              | poorly graded SAND             |
|                                                                        |                                                                           | SAND with DUAL CLASSIFICATIONS<br>5% to 12% fines   | SW-SM                           | well-graded SAND with silt     |
|                                                                        |                                                                           |                                                     | SP-SM                           | poorly graded SAND with silt   |
|                                                                        |                                                                           |                                                     | SW-SC                           | well-graded SAND with clay     |
|                                                                        |                                                                           |                                                     | SP-SC                           | poorly graded SAND with clay   |
|                                                                        |                                                                           | SAND with FINES<br>more than 12% fines              | SM                              | silty SAND                     |
|                                                                        |                                                                           |                                                     | SC                              | clayey SAND                    |
|                                                                        |                                                                           |                                                     | SC-SM                           | silty, clayey SAND             |
| <b>FINE-GRAINED SOILS</b><br>50% or more passes No. 200 sieve          | <b>SILT and CLAY</b><br>liquid limit less than 50%                        | INORGANIC                                           | CL                              | lean CLAY                      |
|                                                                        |                                                                           |                                                     | ML                              | SILT                           |
|                                                                        |                                                                           |                                                     | CL-ML                           | silty CLAY                     |
|                                                                        |                                                                           | ORGANIC                                             | OL (PI > 4)                     | organic CLAY                   |
|                                                                        |                                                                           |                                                     | OL (PI < 4)                     | organic SILT                   |
|                                                                        | <b>SILT and CLAY</b><br>liquid limit 50% or more                          | INORGANIC                                           | CH                              | fat CLAY                       |
|                                                                        |                                                                           |                                                     | MH                              | elastic SILT                   |
|                                                                        |                                                                           |                                                     | OH (plots on or above "A"-line) | organic CLAY                   |
|                                                                        |                                                                           | ORGANIC                                             | OH (plots below "A"-line)       | organic SILT                   |
|                                                                        |                                                                           |                                                     | PT                              | Peat                           |

## Grain Size

| Description |        | Sieve Size   | Grain Size      | Approximate Size               |
|-------------|--------|--------------|-----------------|--------------------------------|
| Boulders    |        | > 12"        | > 12"           | Larger than basketball-sized   |
| Cobbles     |        | 3 - 12"      | 3 - 12"         | Fist-sized to basketball-sized |
| Gravel      | Coarse | 3/4 - 3"     | 3/4 - 3"        | Thumb-sized to fist-sized      |
|             | Fine   | #4 - 3/4"    | 0.19 - 0.75"    | Pea-sized to thumb-sized       |
| Sand        | Coarse | #10 - #4     | 0.075 - 0.19"   | Rock-salt-sized to pea-sized   |
|             | Medium | #40 - #10    | 0.017 - 0.075"  | Sugar-sized to rock-salt-sized |
|             | Fine   | #200 - #40   | 0.0029 - 0.017" | Flour-sized to sugar-sized     |
| Fines       |        | Passing #200 | < 0.0029"       | Flour-sized and smaller        |

## Plasticity Chart



## Apparent Density - Coarse-Grained Soil

| Apparent Density | Spooling Cable or Cathead |                                    | Automatic Trip Hammer |                                    |
|------------------|---------------------------|------------------------------------|-----------------------|------------------------------------|
|                  | SPT (blows/foot)          | Modified Split Barrel (blows/foot) | SPT (blows/foot)      | Modified Split Barrel (blows/foot) |
| Very Loose       | ≤ 4                       | ≤ 8                                | ≤ 3                   | ≤ 5                                |
| Loose            | 5 - 10                    | 9 - 21                             | 4 - 7                 | 6 - 14                             |
| Medium Dense     | 11 - 30                   | 22 - 63                            | 8 - 20                | 15 - 42                            |
| Dense            | 31 - 50                   | 64 - 105                           | 21 - 33               | 43 - 70                            |
| Very Dense       | > 50                      | > 105                              | > 33                  | > 70                               |

## Consistency - Fine-Grained Soil

| Consistency | Spooling Cable or Cathead |                                    | Automatic Trip Hammer |                                    |
|-------------|---------------------------|------------------------------------|-----------------------|------------------------------------|
|             | SPT (blows/foot)          | Modified Split Barrel (blows/foot) | SPT (blows/foot)      | Modified Split Barrel (blows/foot) |
| Very Soft   | < 2                       | < 3                                | < 1                   | < 2                                |
| Soft        | 2 - 4                     | 3 - 5                              | 1 - 3                 | 2 - 3                              |
| Firm        | 5 - 8                     | 6 - 10                             | 4 - 5                 | 4 - 6                              |
| Stiff       | 9 - 15                    | 11 - 20                            | 6 - 10                | 7 - 13                             |
| Very Stiff  | 16 - 30                   | 21 - 39                            | 11 - 20               | 14 - 26                            |
| Hard        | > 30                      | > 39                               | > 20                  | > 26                               |

# BORING LOG EXPLANATION SHEET

| DEPTH (feet) | Bulk<br>Driven<br>SAMPLES | BLOWS/FOOT | MOISTURE (%) | DRY DENSITY (PCF) | SYMBOL | CLASSIFICATION<br>U.S.C.S. |                                                                                                                                                                                                                         |
|--------------|---------------------------|------------|--------------|-------------------|--------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0            |                           |            |              |                   |        |                            | Bulk sample.                                                                                                                                                                                                            |
|              |                           |            |              |                   |        |                            | Modified split-barrel drive sampler.                                                                                                                                                                                    |
|              |                           |            |              |                   |        |                            | No recovery with modified split-barrel drive sampler.                                                                                                                                                                   |
|              |                           |            |              |                   |        |                            | Sample retained by others.                                                                                                                                                                                              |
|              |                           |            |              |                   |        |                            | Standard Penetration Test (SPT).                                                                                                                                                                                        |
| 5            |                           |            |              |                   |        |                            | No recovery with a SPT.                                                                                                                                                                                                 |
|              |                           | XX/XX      |              |                   |        |                            | Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.                                                                                                                                     |
|              |                           |            |              |                   |        |                            | No recovery with Shelby tube sampler.                                                                                                                                                                                   |
|              |                           |            |              |                   |        |                            | Continuous Push Sample.                                                                                                                                                                                                 |
|              |                           |            |              |                   |        |                            | Seepage.                                                                                                                                                                                                                |
| 10           |                           |            |              |                   |        |                            | Groundwater encountered during drilling.                                                                                                                                                                                |
|              |                           |            |              |                   |        |                            | Groundwater measured after drilling.                                                                                                                                                                                    |
|              |                           |            |              |                   |        | SM                         | MAJOR MATERIAL TYPE (SOIL):                                                                                                                                                                                             |
|              |                           |            |              |                   |        |                            | Solid line denotes unit change.                                                                                                                                                                                         |
|              |                           |            |              |                   |        | CL                         | Dashed line denotes material change.                                                                                                                                                                                    |
| 15           |                           |            |              |                   |        |                            | Attitudes: Strike/Dip<br>b: Bedding<br>c: Contact<br>j: Joint<br>f: Fracture<br>F: Fault<br>cs: Clay Seam<br>s: Shear<br>bss: Basal Slide Surface<br>sf: Shear Fracture<br>sz: Shear Zone<br>sbs: Shear Bedding Surface |
| 20           |                           |            |              |                   |        |                            | The total depth line is a solid line that is drawn at the bottom of the boring.                                                                                                                                         |

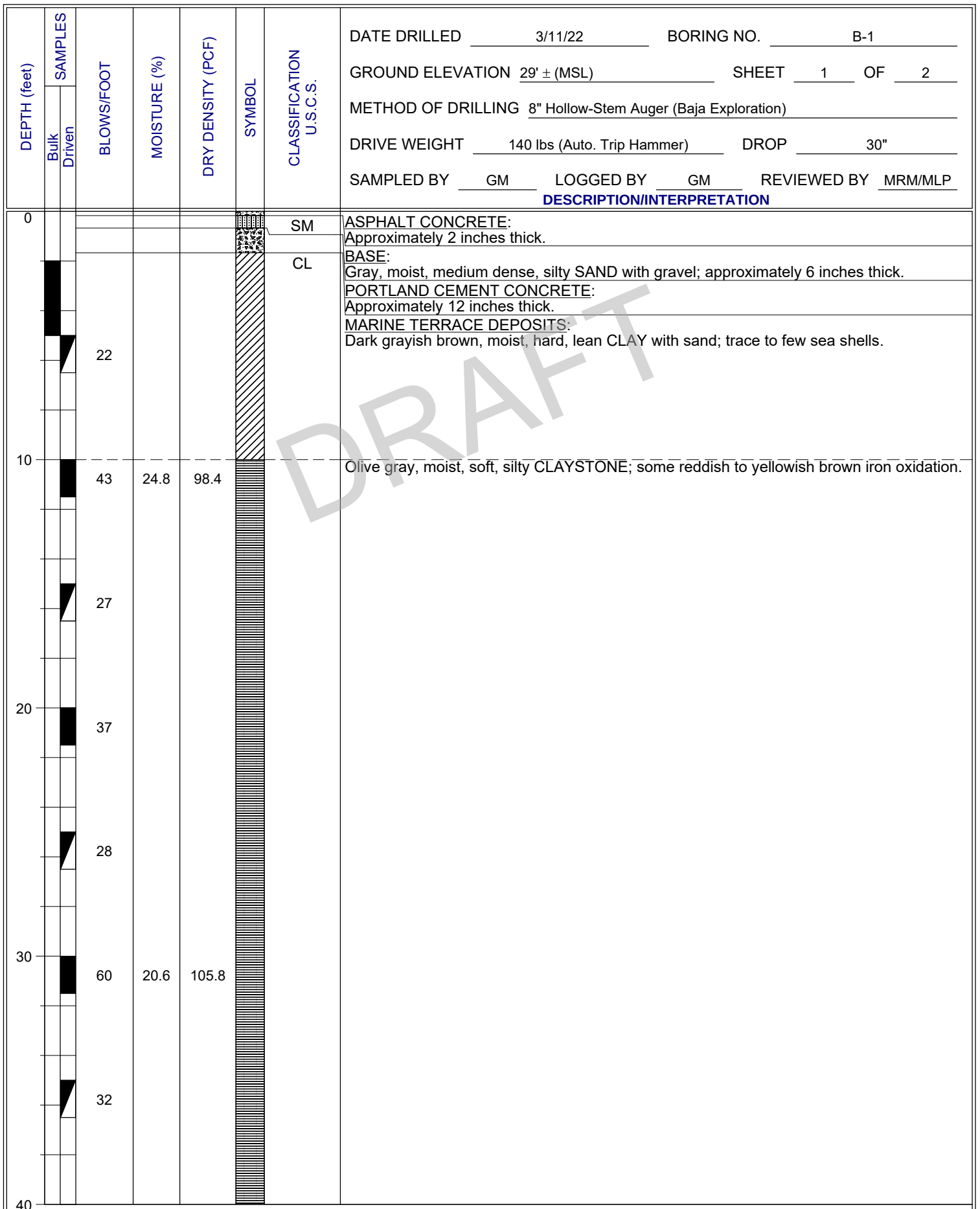


FIGURE A- 1

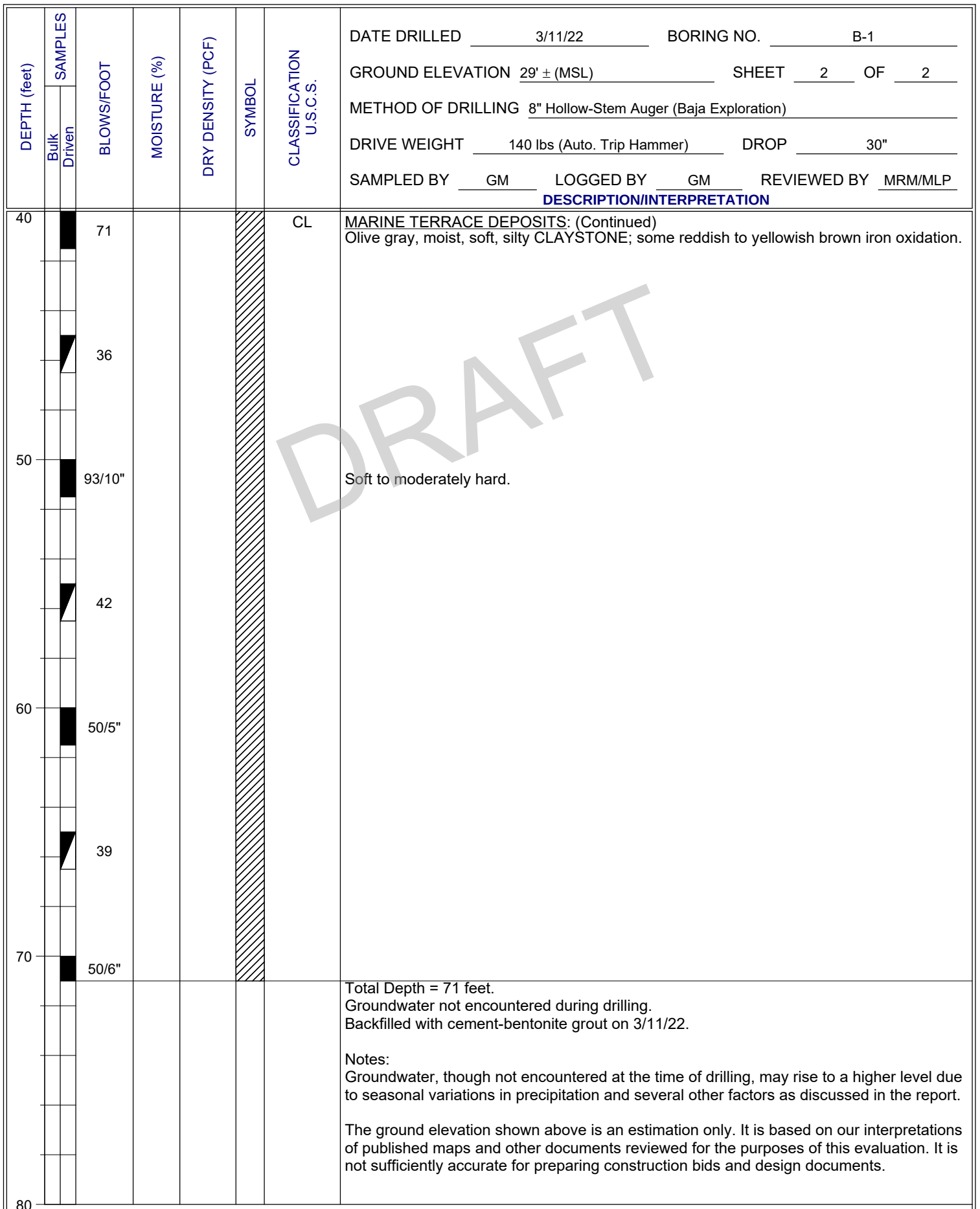


FIGURE A- 2

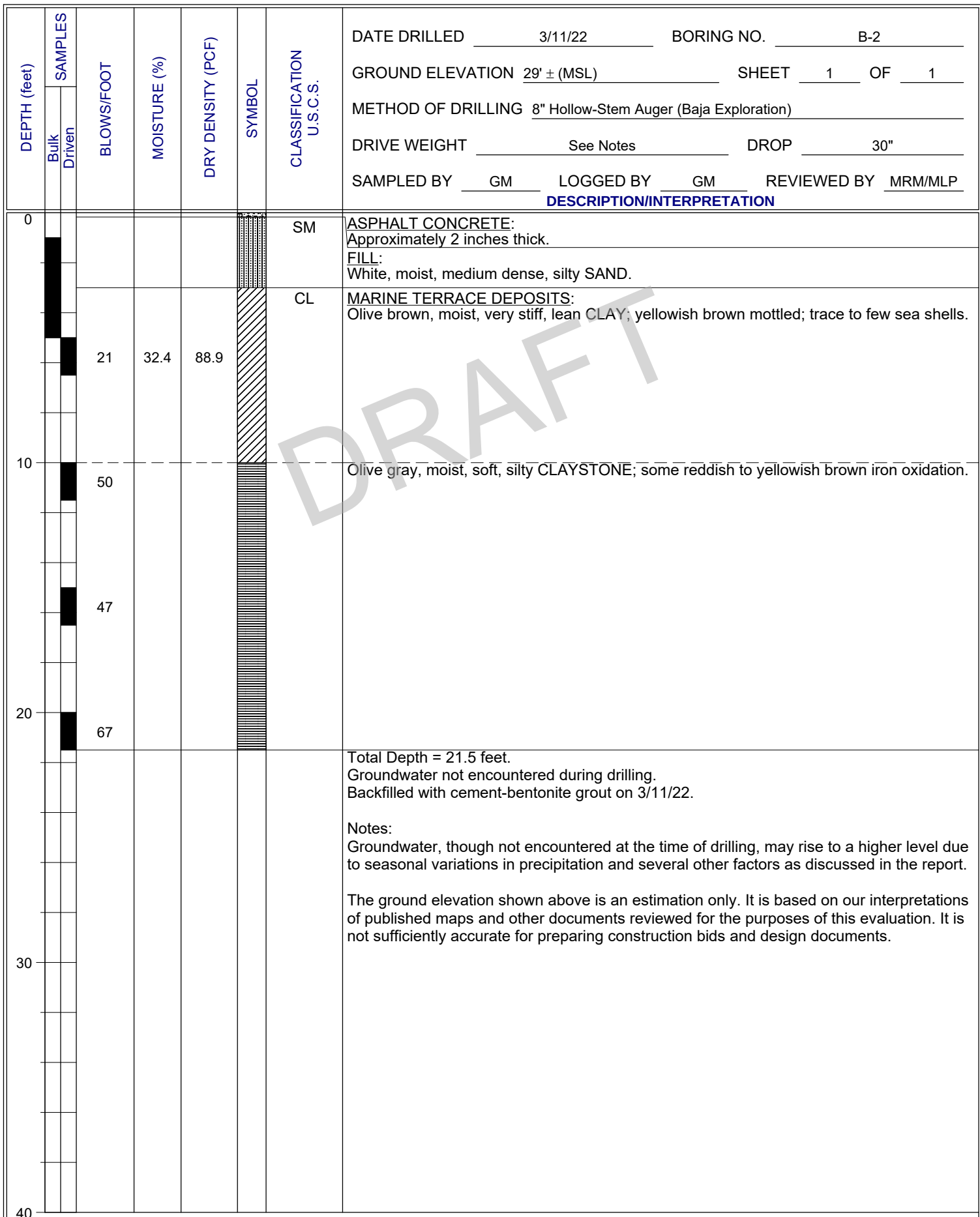


FIGURE A- 3



DRAFT

## Previous Boring Logs, 2021

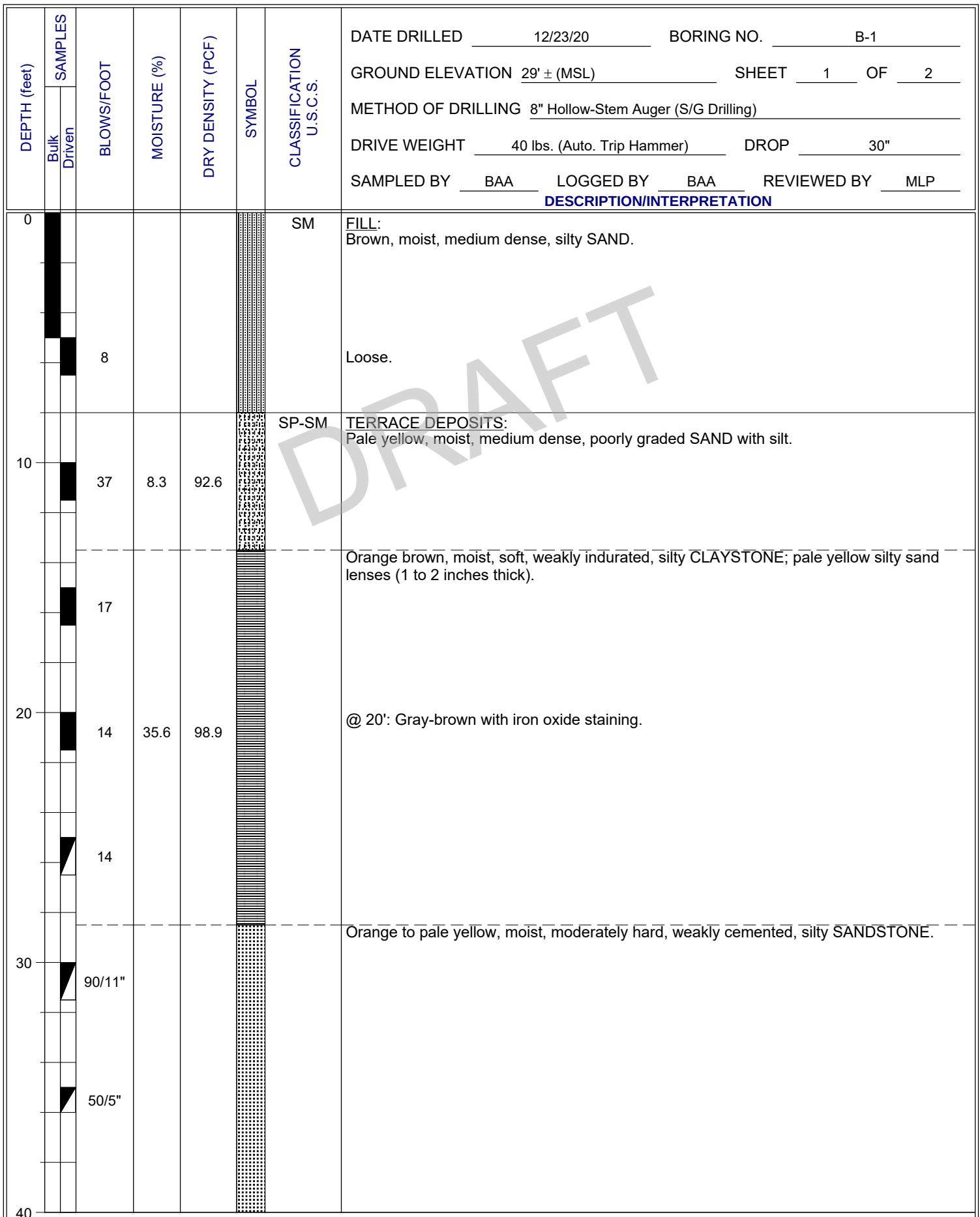


FIGURE A- 1



FIGURE A- 2

| DEPTH (feet) | SAMPLES |        | BLOWS/FOOT | MOISTURE (%) | DRY DENSITY (pcf) | SYMBOL | CLASSIFICATION<br>U.S.C.S. | DATE DRILLED <u>12/23/20</u> BORING NO. <u>B-2</u><br>GROUND ELEVATION <u>29' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u><br>METHOD OF DRILLING <u>8" Hollow-Stem Auger (S/G Drilling)</u><br>DRIVE WEIGHT <u>40 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u><br>SAMPLED BY <u>BAA</u> LOGGED BY <u>BAA</u> REVIEWED BY <u>MLP</u><br><u>DESCRIPTION/INTERPRETATION</u>                                                                                                                                                                                                                                                      |  |
|--------------|---------|--------|------------|--------------|-------------------|--------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|              | Bulk    | Driven |            |              |                   |        |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 0            |         |        |            |              |                   |        | SM                         | FILL:<br>Brown to dark brown, moist, loose, silty SAND.<br><br>Very loose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 5            |         |        | 5          | 9.8          | 95.4              |        |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 10           |         |        | 29         | 9.6          | 91.8              |        | SM                         | TERRACE DEPOSITS:<br>Pale yellow, moist, medium dense, silty SAND.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 15           |         |        |            |              |                   |        |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 20           |         |        | 38         | 11.3         | 94.3              |        |                            | Pale yellow to gray brown with iron staining, moist, soft, friable, silty SANDSTONE; trace clay; mottling.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 25           |         |        | 45         | 22.1         | 102.0             |        |                            | Increase in silt and clay content.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 30           |         |        |            |              |                   |        |                            | Total Depth = 21.5 feet.<br>Groundwater not encountered during drilling.<br>Backfilled with cement-grout upon completion.<br><br><u>Notes:</u><br>Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.<br><br>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents. |  |
| 40           |         |        |            |              |                   |        |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |

FIGURE A- 3

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## APPENDIX B

### Laboratory Testing

## **APPENDIX B**

### **LABORATORY TESTING**

#### **Classification**

Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

#### **In-Place Moisture and Density Tests**

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory borings in Appendix A.

#### **Percent Finer than No. 200 Sieve**

An evaluation of the percentage of particles finer than the No. 200 sieve in selected soil samples was performed in general accordance with ASTM D 1140. The results of the tests are presented on Figure B-1.

#### **Atterberg Limits**

Tests were performed on a selected representative fine-grained soil sample to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318. These test results were utilized to evaluate the soil classification in accordance with the USCS. The test results and soil classification are shown on Figure B-2.

#### **Maximum Dry Density Tests**

The maximum dry density and optimum moisture content of a representative soil sample were evaluated in general accordance with the Modified Proctor method (ASTM D 1557). The results of this test are summarized on Figure B-3.

#### **Direct Shear Test**

Direct shear tests were performed on relatively undisturbed and remolded samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the selected materials. The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figure B-4 and B-5.

#### **Consolidation Test**

A consolidation test was performed on a relatively undisturbed soil sample in general accordance with ASTM D 2435. The sample was inundated during testing to represent adverse field conditions. The percent of consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of this test are summarized on Figure B-6.

#### **Soil Corrosivity Tests**

Soil pH and resistivity tests were performed on a representative sample in general accordance with California Test (CT) 643. The soluble sulfate and chloride content of the selected sample were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-7.

| SAMPLE LOCATION | SAMPLE DEPTH (ft) | DESCRIPTION         | PERCENT PASSING NO. 4 | PERCENT PASSING NO. 200 | USCS <sup>2</sup> |
|-----------------|-------------------|---------------------|-----------------------|-------------------------|-------------------|
| B-1             | 2.0-5.0           | Lean CLAY with Sand | 99                    | 83                      | CL                |
| B-1             | 10.0-11.5         | Silty CLAYSTONE     | 100                   | 93                      | CL                |
| B-1             | 25.0-26.5         | Silty CLAYSTONE     | 100                   | 96                      | CL                |
| B-1             | 40.0-41.5         | Silty CLAYSTONE     | 100                   | 96                      | CL                |
| B-2             | 5.0-6.5           | Lean CLAY           | 100                   | 99                      | CL                |

<sup>1</sup> PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

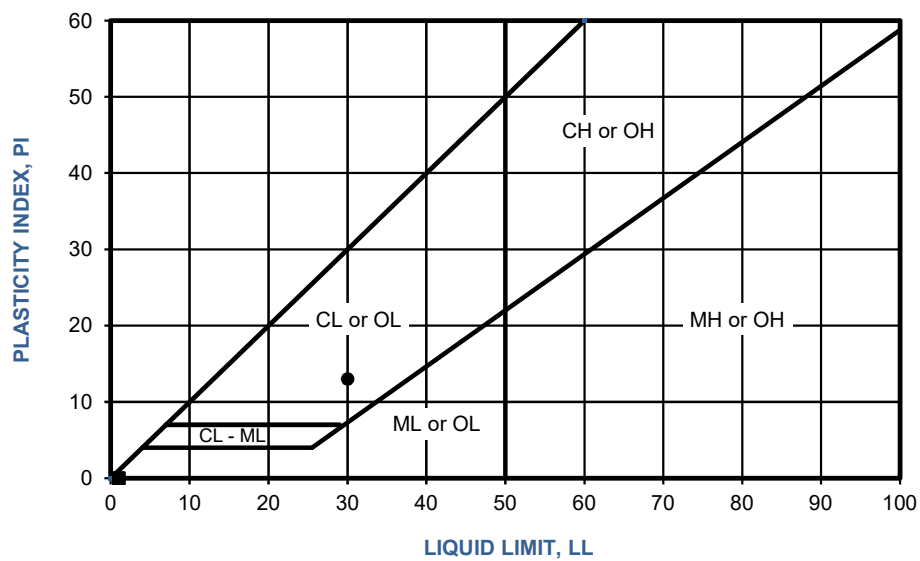
<sup>2</sup> USCS EQUIVALENT FOR BEDROCK SAMPLES

FIGURE B-1



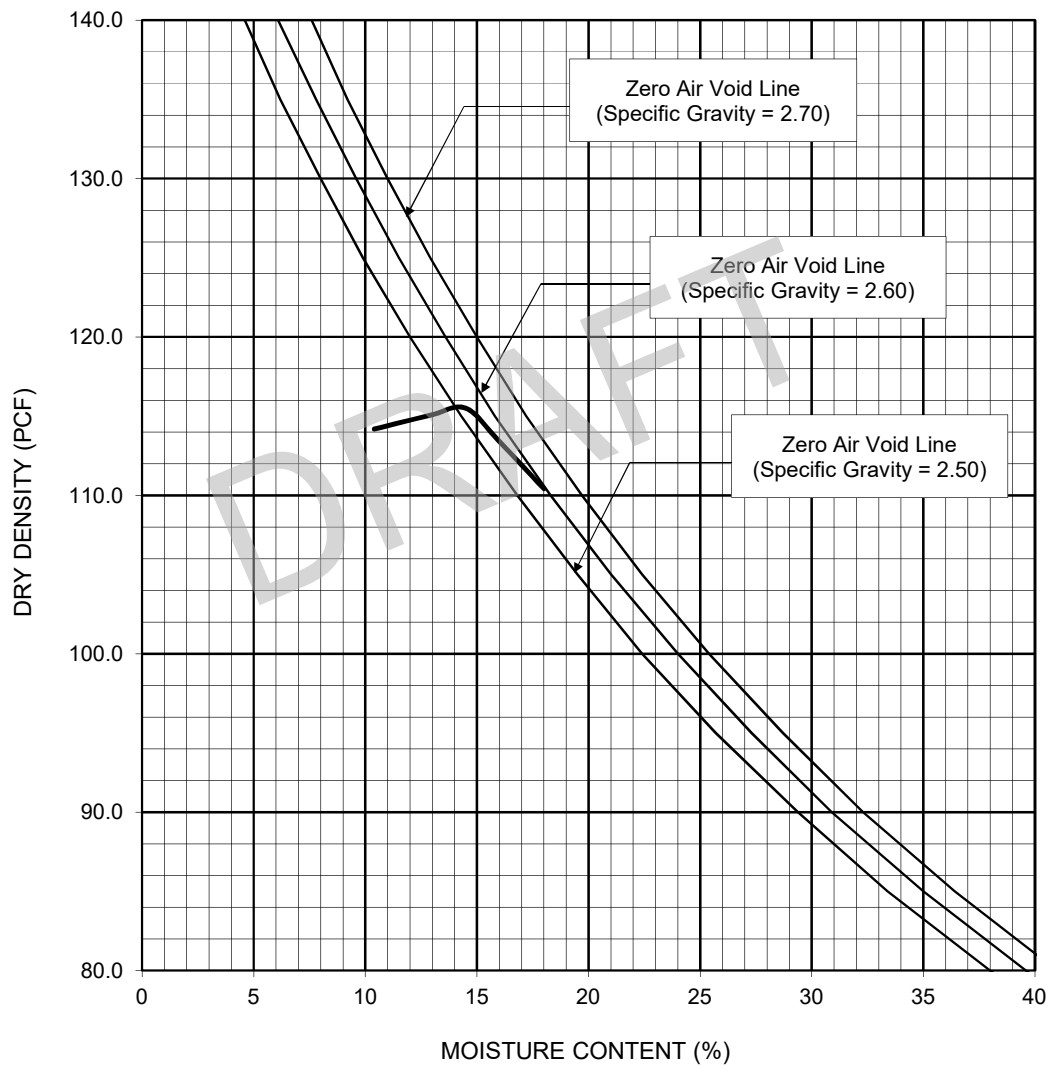
| SYMBOL | LOCATION | DEPTH (ft) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | USCS CLASSIFICATION<br>(Fraction Finer Than No. 40 Sieve) | USCS |
|--------|----------|------------|--------------|---------------|------------------|-----------------------------------------------------------|------|
| •      | B-1      | 2.0-5.0    | 30           | 17            | 13               | CL                                                        | CL   |

NP - INDICATES NON-PLASTIC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318

FIGURE B-2



| Sample Location                                                              | Depth (ft) | Soil Description                       | Maximum Dry Density (pcf) | Optimum Moisture Content (percent) |
|------------------------------------------------------------------------------|------------|----------------------------------------|---------------------------|------------------------------------|
| B-1                                                                          | 2.0-5.0    | DARK GRAYISH BROWN LEAN CLAY WITH SAND | 115.5                     | 14.5                               |
| Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718) |            |                                        | N/A                       | N/A                                |

PERFORMED IN GENERAL ACCORDANCE WITH

☒ ASTM D 1557

☐ ASTM D 698

METHOD ☐ A

☒ B

☐ C

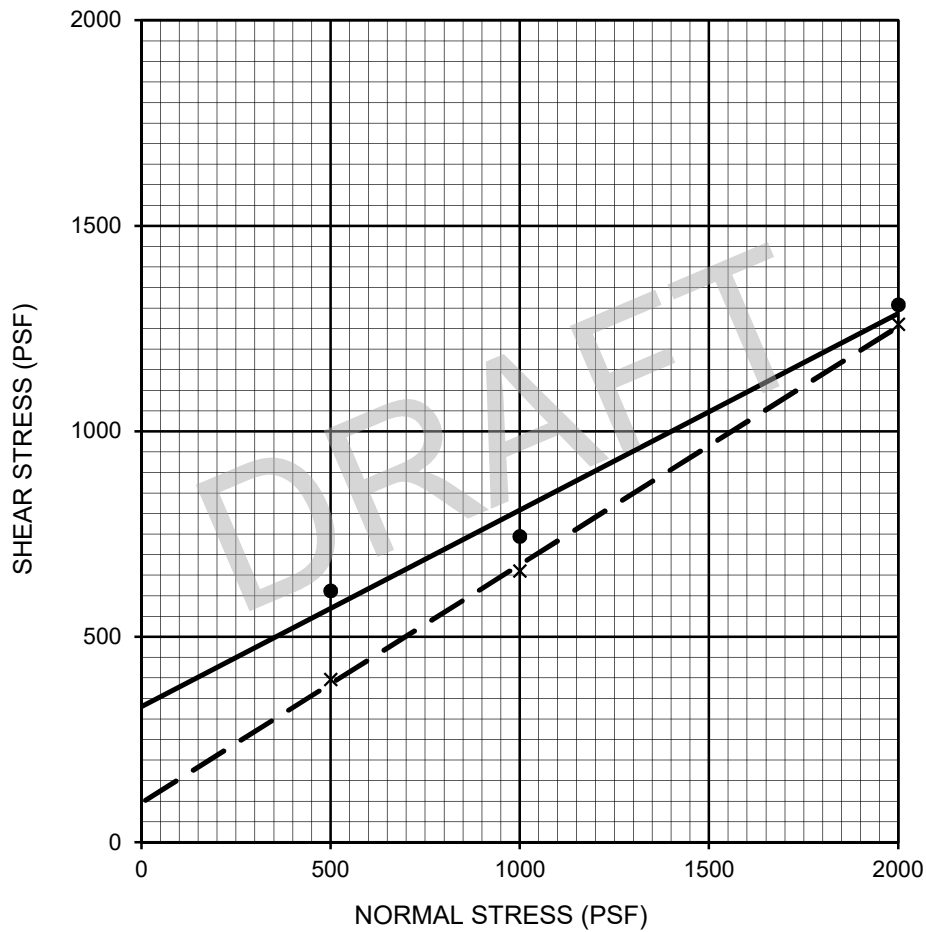
FIGURE B-3

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

**PROCTOR DENSITY TEST RESULTS**

NEW FOG RECEIVING STATION AND THERMAL DRYING FACILITY  
GOLETA, CALIFORNIA

211573002 | 4/22

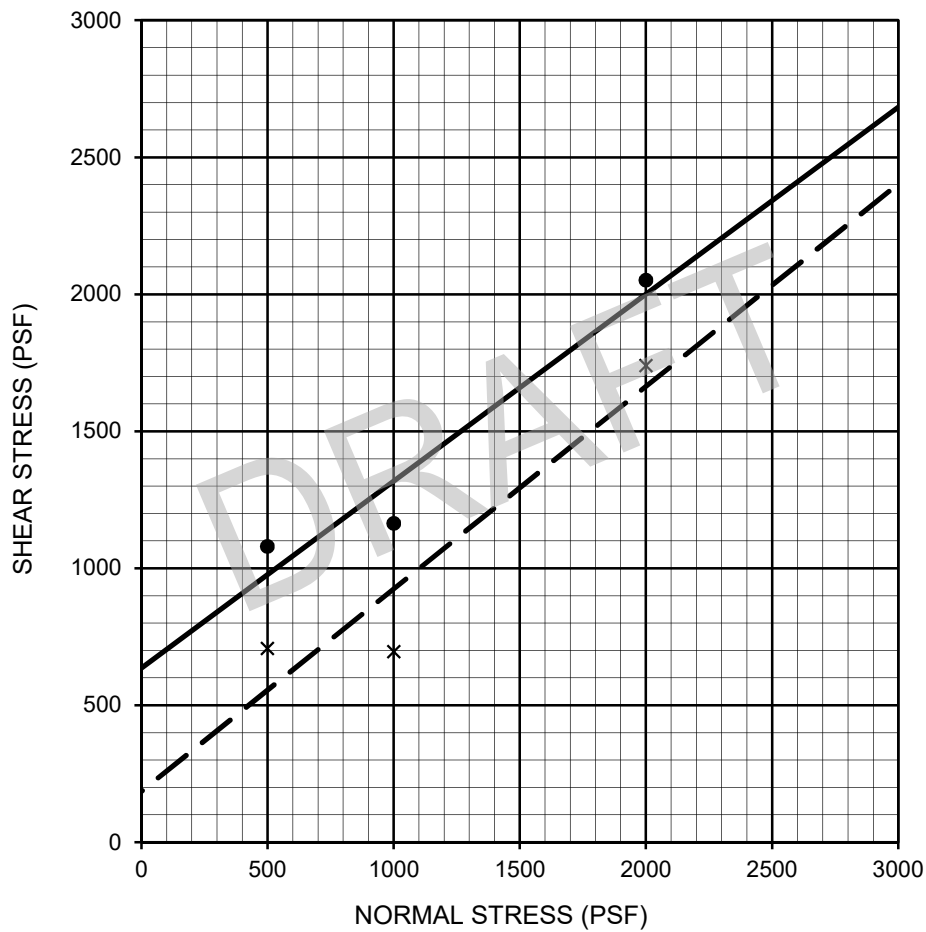


| Description         | Symbol    | Sample Location | Depth (ft) | Shear Strength | Cohesion (psf) | Friction Angle (degrees) | Soil Type |
|---------------------|-----------|-----------------|------------|----------------|----------------|--------------------------|-----------|
| LEAN CLAY WITH SAND | —●—       | B-1             | 2.0-5.0    | Peak           | 330            | 26                       | CL        |
| LEAN CLAY WITH SAND | - - X - - | B-1             | 2.0-5.0    | Ultimate       | 96             | 30                       | CL        |

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080 ON A SAMPLE REMOLDED TO 90% RELATIVE COMPACTION.

**FIGURE B-4**

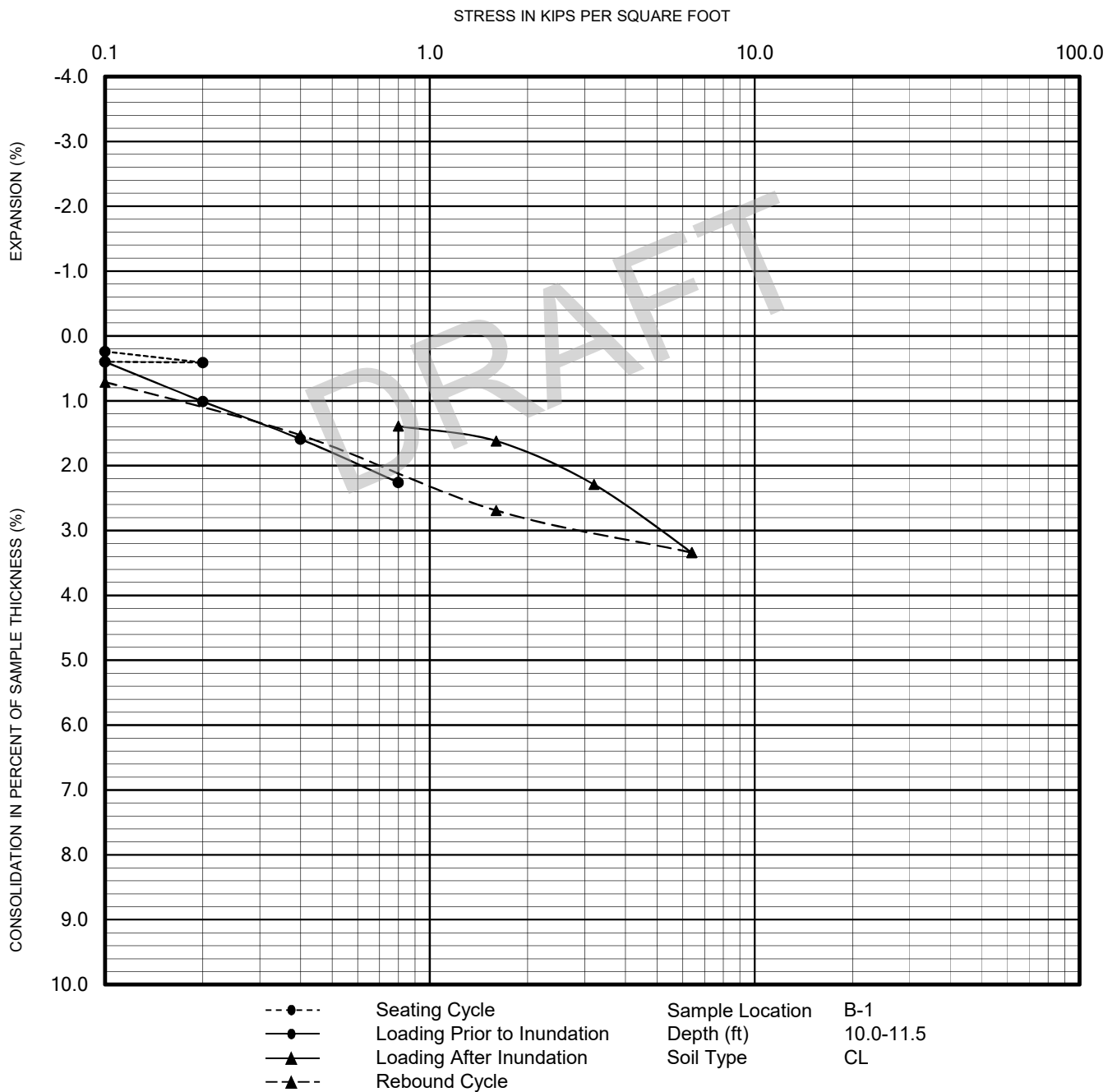
**DIRECT SHEAR TEST RESULTS**



| Description | Symbol    | Sample Location | Depth (ft) | Shear Strength | Cohesion (psf) | Friction Angle (degrees) | Soil Type |
|-------------|-----------|-----------------|------------|----------------|----------------|--------------------------|-----------|
| LEAN CLAY   | —●—       | B-2             | 5.0-6.5    | Peak           | 636            | 34                       | CL        |
| LEAN CLAY   | - - X - - | B-2             | 5.0-6.5    | Ultimate       | 186            | 36                       | CL        |

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

**FIGURE B-5**



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435

**FIGURE B-6**

| SAMPLE LOCATION | SAMPLE DEPTH (ft) | pH <sup>1</sup> | RESISTIVITY <sup>1</sup><br>(ohm-cm) | SULFATE CONTENT <sup>2</sup> |       | CHLORIDE CONTENT <sup>3</sup><br>(ppm) |
|-----------------|-------------------|-----------------|--------------------------------------|------------------------------|-------|----------------------------------------|
|                 |                   |                 |                                      | (ppm)                        | (%)   |                                        |
| B-1             | 2.0-5.0           | 7.2             | 683                                  | 360                          | 0.036 | 240                                    |

<sup>1</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

<sup>2</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

<sup>3</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

FIGURE B-7



# DRAFT

## APPENDIX C

### Results of Analytical Testing





Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 459721  
Report Level: II  
Report Date: 03/25/2022

**Analytical Report** *prepared for:*

Morteza Mirshikari  
Ninyo & Moore  
475 Goddard  
Suite 200  
Irvine, CA 92618

Project: GOLETA SANITARY DIST - 1 William Moffett Pl., Goleta, CA 93117

*Authorized for release by:*

Ranjit K Clarke, Client Services Manager  
(714) 771-9906  
[Ranjit.Clarke@enthalpy.com](mailto:Ranjit.Clarke@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

### Sample Summary

|                    |                |                                         |
|--------------------|----------------|-----------------------------------------|
| Morteza Mirshikari | Lab Job #:     | 459721                                  |
| Ninyo & Moore      | Project No:    | GOLETA SANITARY DIST                    |
| 475 Goddard        | Location:      | 1 William Moffett Pl., Goleta, CA 93117 |
| Suite 200          | Date Received: | 03/15/22                                |
| Irvine, CA 92618   |                |                                         |

| Sample ID | Lab ID     | Collected      | Matrix |
|-----------|------------|----------------|--------|
| B-1@2'    | 459721-001 | 03/11/22 07:50 | Soil   |
| B-2@1.0'  | 459721-002 | 03/11/22 11:40 | Soil   |

## Case Narrative

---

|                    |                                                   |
|--------------------|---------------------------------------------------|
| Ninyo & Moore      | Lab Job Number: 459721                            |
| 475 Goddard        | Project No: GOLETA SANITARY DIST                  |
| Suite 200          | Location: 1 William Moffett Pl., Goleta, CA 93117 |
| Irvine, CA 92618   | Date Received: 03/15/22                           |
| Morteza Mirshikari |                                                   |

---

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 03/15/22. The samples were received cold and intact.

**TPH-Extractables by GC (EPA 8015M):**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B):**

No analytical problems were encountered.

**Pesticides (EPA 8081A):**

No analytical problems were encountered.

**PCBs (EPA 8082):**

No analytical problems were encountered.

**Metals (EPA 6010B and EPA 7471A):**

- High response was observed for mercury in the ICV analyzed 03/21/22 13:52; affected data was qualified with "b".
- High response was observed for mercury in the CCV analyzed 03/21/22 14:19; affected data was qualified with "b".
- High response was observed for mercury in the CCV analyzed 03/21/22 14:44; affected data was qualified with "b".
- High response was observed for mercury in the CCV analyzed 03/21/22 15:09; affected data was qualified with "b".
- Low recoveries were observed for barium and antimony in the MS/MSD for batch 285755; the parent sample was not a project sample, the LCS was within limits, and the associated RPDs were within limits.
- High recoveries were observed for mercury in the MS/MSD for batch 285868; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.
- No other analytical problems were encountered.

**8151A Chlorinated Herbicides (EPA 8151A):**

McC Campbell Analytical, Inc. in Pittsburg, CA performed the analysis (NELAP certified). Please see the McC Campbell Analytical, Inc. case narrative.





# **SAMPLE ACCEPTANCE CHECKLIST**

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| <b>Section 1</b>                 |                                                                                             |
| Client: <u>Ninyo &amp; Moore</u> | Project: <u>Goleta Sanitary District</u>                                                    |
| Date Received: <u>03/15/22</u>   | Sampler's Name Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

|                                                                                                                                                                                                                                                                                                |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Section 2</b>                                                                                                                                                                                                                                                                               |  |
| Sample(s) received in a cooler? <input checked="" type="checkbox"/> Yes, How many? <u>1</u> <input type="checkbox"/> No (skip section 2) Sample Temp (°C) (No Cooler) : _____                                                                                                                  |  |
| Sample Temp (°C), One from each cooler: #1: <u>8.4</u> #2: _____ #3: _____ #4: _____                                                                                                                                                                                                           |  |
| <small>(Acceptance range is &lt; 6°C but not frozen (for Microbiology samples, acceptance range is &lt; 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)</small> |  |
| Shipping Information: _____                                                                                                                                                                                                                                                                    |  |

|                                                                                                                                                                                |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Section 3</b>                                                                                                                                                               |  |
| Was the cooler packed with: <input checked="" type="checkbox"/> Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Bubble Wrap <input type="checkbox"/> Styrofoam |  |
| <input type="checkbox"/> Paper <input type="checkbox"/> None <input type="checkbox"/> Other _____                                                                              |  |
| Cooler Temp (°C): #1: <u>4.2</u> #2: _____ #3: _____ #4: _____                                                                                                                 |  |

| Section 4                                                                      | YES | NO | N/A |
|--------------------------------------------------------------------------------|-----|----|-----|
| Was a COC received?                                                            | ✓   |    |     |
| Are sample IDs present?                                                        | ✓   |    |     |
| Are sampling dates & times present?                                            | ✓   |    |     |
| Is a relinquished signature present?                                           | ✓   |    |     |
| Are the tests required clearly indicated on the COC?                           | ✓   |    |     |
| Are custody seals present?                                                     |     | ✓  |     |
| If custody seals are present, were they intact?                                |     |    | ✓   |
| Are all samples sealed in plastic bags? (Recommended for Microbiology samples) |     |    | ✓   |
| Did all samples arrive intact? If no, indicate in Section 4 below.             | ✓   |    |     |
| Did all bottle labels agree with COC? (ID, dates and times)                    | ✓   |    |     |
| Were the samples collected in the correct containers for the required tests?   | ✓   |    |     |
| Are the containers labeled with the correct preservatives?                     |     |    | ✓   |
| Is there headspace in the VOA vials greater than 5-6 mm in diameter?           |     |    | ✓   |
| Was a sufficient amount of sample submitted for the requested tests?           | ✓   |    |     |

|                                        |
|----------------------------------------|
| <b>Section 5</b> Explanations/Comments |
|                                        |

|                                                                                                                             |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|
| <b>Section 6</b>                                                                                                            |  |
| For discrepancies, how was the Project Manager notified? <input type="checkbox"/> Verbal PM Initials: _____ Date/Time _____ |  |
| <input type="checkbox"/> Email (email sent to/on): _____ / _____                                                            |  |
| Project Manager's response:                                                                                                 |  |
|                                                                                                                             |  |

Completed By: [Signature] Date: 03/15/22

## Analysis Results for 459721

Morteza Mirshikari  
Ninyo & Moore  
475 Goddard  
Suite 200  
Irvine, CA 92618

Lab Job #: 459721  
Project No: GOLETA SANITARY DIST  
Location: 1 William Moffett Pl., Goleta, CA 93117  
Date Received: 03/15/22

**Sample ID: B-1@2'**

**Lab ID: 459721-001**

**Collected: 03/11/22 07:50**

**Matrix: Soil**

| 459721-001 Analyte | Result | Qual | Units | RL | DF | Batch | Prepared | Analyzed | Chemist |
|--------------------|--------|------|-------|----|----|-------|----------|----------|---------|
|--------------------|--------|------|-------|----|----|-------|----------|----------|---------|

Method: EPA 6010B

Prep Method: EPA 3050B

|            |     |  |       |      |      |        |          |          |     |
|------------|-----|--|-------|------|------|--------|----------|----------|-----|
| Antimony   | ND  |  | mg/Kg | 2.6  | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Arsenic    | 2.5 |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Barium     | 140 |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Beryllium  | ND  |  | mg/Kg | 0.44 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Cadmium    | ND  |  | mg/Kg | 0.44 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Chromium   | 38  |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Cobalt     | 5.7 |  | mg/Kg | 0.44 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Copper     | 16  |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Lead       | 7.4 |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Molybdenum | ND  |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Nickel     | 31  |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Selenium   | ND  |  | mg/Kg | 2.6  | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Silver     | ND  |  | mg/Kg | 0.44 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Thallium   | ND  |  | mg/Kg | 2.6  | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Vanadium   | 36  |  | mg/Kg | 0.88 | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |
| Zinc       | 48  |  | mg/Kg | 4.4  | 0.88 | 285755 | 03/17/22 | 03/17/22 | KLN |

Method: EPA 7471A

Prep Method: METHOD

|         |    |  |       |      |     |        |          |          |     |
|---------|----|--|-------|------|-----|--------|----------|----------|-----|
| Mercury | ND |  | mg/Kg | 0.16 | 1.1 | 285868 | 03/18/22 | 03/21/22 | SBW |
|---------|----|--|-------|------|-----|--------|----------|----------|-----|

Method: EPA 8015M

Prep Method: EPA 3580

|             |    |  |       |    |   |        |          |          |     |
|-------------|----|--|-------|----|---|--------|----------|----------|-----|
| GRO C6-C10  | ND |  | mg/Kg | 10 | 1 | 286017 | 03/22/22 | 03/24/22 | MES |
| DRO C10-C28 | 16 |  | mg/Kg | 10 | 1 | 286017 | 03/22/22 | 03/24/22 | MES |
| ORO C28-C44 | ND |  | mg/Kg | 20 | 1 | 286017 | 03/22/22 | 03/24/22 | MES |

**Surrogates**

**Limits**

|               |     |  |      |        |   |        |          |          |     |
|---------------|-----|--|------|--------|---|--------|----------|----------|-----|
| n-Triacontane | 89% |  | %REC | 70-130 | 1 | 286017 | 03/22/22 | 03/24/22 | MES |
|---------------|-----|--|------|--------|---|--------|----------|----------|-----|

Method: EPA 8081A

Prep Method: EPA 3546

|            |    |  |       |     |   |        |          |          |     |
|------------|----|--|-------|-----|---|--------|----------|----------|-----|
| alpha-BHC  | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| beta-BHC   | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| gamma-BHC  | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| delta-BHC  | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Heptachlor | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aldrin     | ND |  | ug/Kg | 5.0 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |

## Analysis Results for 459721

| 459721-001 Analyte    | Result | Qual | Units | RL  | DF | Batch  | Prepared | Analyzed | Chemist |
|-----------------------|--------|------|-------|-----|----|--------|----------|----------|---------|
| Heptachlor epoxide    | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endosulfan I          | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Dieldrin              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| 4,4'-DDE              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endrin                | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endosulfan II         | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endosulfan sulfate    | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| 4,4'-DDD              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endrin aldehyde       | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Endrin ketone         | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| 4,4'-DDT              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Methoxychlor          | ND     |      | ug/Kg | 10  | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Toxaphene             | ND     |      | ug/Kg | 100 | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |
| Chlordane (Technical) | ND     |      | ug/Kg | 50  | 1  | 285738 | 03/17/22 | 03/19/22 | TRN     |

| Surrogates         | Limits |  |      |        |   |        |          |          |     |
|--------------------|--------|--|------|--------|---|--------|----------|----------|-----|
| TCMX               | 93%    |  | %REC | 23-120 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Decachlorobiphenyl | 94%    |  | %REC | 24-120 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |

Method: EPA 8082

Prep Method: EPA 3546

|              |    |  |       |    |   |        |          |          |     |
|--------------|----|--|-------|----|---|--------|----------|----------|-----|
| Aroclor-1016 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1221 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1232 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1242 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1248 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1254 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1260 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1262 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1268 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |

| Surrogates               | Limits |  |      |        |   |        |          |          |     |
|--------------------------|--------|--|------|--------|---|--------|----------|----------|-----|
| Decachlorobiphenyl (PCB) | 84%    |  | %REC | 19-121 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |

Method: EPA 8260B

Prep Method: EPA 5030B

|                               |    |  |       |     |   |        |          |          |     |
|-------------------------------|----|--|-------|-----|---|--------|----------|----------|-----|
| 3-Chloropropene               | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| cis-1,4-Dichloro-2-butene     | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| trans-1,4-Dichloro-2-butene   | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Isopropyl Ether (DIPE)        | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Ethyl tert-Butyl Ether (ETBE) | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Methyl tert-Amyl Ether (TAME) | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| tert-Butyl Alcohol (TBA)      | ND |  | ug/Kg | 10  | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Freon 12                      | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Chloromethane                 | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Vinyl Chloride                | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Bromomethane                  | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Chloroethane                  | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Trichlorofluoromethane        | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Acetone                       | ND |  | ug/Kg | 100 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |



## Analysis Results for 459721

| 459721-001 Analyte        | Result | Qual | Units | RL  | DF | Batch  | Prepared | Analyzed | Chemist |
|---------------------------|--------|------|-------|-----|----|--------|----------|----------|---------|
| Freon 113                 | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1-Dichloroethene        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Methylene Chloride        | ND     |      | ug/Kg | 15  | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| MTBE                      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| trans-1,2-Dichloroethene  | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1-Dichloroethane        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 2-Butanone                | ND     |      | ug/Kg | 100 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| cis-1,2-Dichloroethene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 2,2-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Chloroform                | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromochloromethane        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,1-Trichloroethane     | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1-Dichloropropene       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Carbon Tetrachloride      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloroethane        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Benzene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Trichloroethene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromodichloromethane      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Dibromomethane            | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 4-Methyl-2-Pentanone      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| cis-1,3-Dichloropropene   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Toluene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| trans-1,3-Dichloropropene | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,2-Trichloroethane     | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Tetrachloroethene         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Dibromochloromethane      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dibromoethane         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Chlorobenzene             | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,1,2-Tetrachloroethane | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Ethylbenzene              | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| m,p-Xylenes               | ND     |      | ug/Kg | 10  | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| o-Xylene                  | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Styrene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromoform                 | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Isopropylbenzene          | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,2,2-Tetrachloroethane | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,3-Trichloropropane    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Propylbenzene             | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromobenzene              | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3,5-Trimethylbenzene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 2-Chlorotoluene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 4-Chlorotoluene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| tert-Butylbenzene         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,4-Trimethylbenzene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |

## Analysis Results for 459721

| 459721-001 Analyte          | Result | Qual | Units         | RL     | DF | Batch  | Prepared | Analyzed | Chemist |
|-----------------------------|--------|------|---------------|--------|----|--------|----------|----------|---------|
| sec-Butylbenzene            | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| para-Isopropyl Toluene      | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3-Dichlorobenzene         | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,4-Dichlorobenzene         | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| n-Butylbenzene              | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichlorobenzene         | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dibromo-3-Chloropropane | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,4-Trichlorobenzene      | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Hexachlorobutadiene         | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Naphthalene                 | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,3-Trichlorobenzene      | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Xylene (total)              | ND     |      | ug/Kg         | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| <b>Surrogates</b>           |        |      | <b>Limits</b> |        |    |        |          |          |         |
| Dibromofluoromethane        | 96%    |      | %REC          | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloroethane-d4       | 97%    |      | %REC          | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Toluene-d8                  | 107%   |      | %REC          | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromofluorobenzene          | 96%    |      | %REC          | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |

## Analysis Results for 459721

**Sample ID: B-2@1.0'**
**Lab ID: 459721-002**
**Collected: 03/11/22 11:40**
**Matrix: Soil**

| 459721-002 Analyte     | Result        | Qual | Units | RL     | DF   | Batch  | Prepared | Analyzed | Chemist |
|------------------------|---------------|------|-------|--------|------|--------|----------|----------|---------|
| Method: EPA 6010B      |               |      |       |        |      |        |          |          |         |
| Prep Method: EPA 3050B |               |      |       |        |      |        |          |          |         |
| Antimony               | ND            |      | mg/Kg | 2.6    | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Arsenic                | 1.2           |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Barium                 | 50            |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Beryllium              | ND            |      | mg/Kg | 0.43   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Cadmium                | ND            |      | mg/Kg | 0.43   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Chromium               | 27            |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Cobalt                 | 3.2           |      | mg/Kg | 0.43   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Copper                 | 6.5           |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Lead                   | 2.4           |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Molybdenum             | ND            |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Nickel                 | 23            |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Selenium               | ND            |      | mg/Kg | 2.6    | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Silver                 | ND            |      | mg/Kg | 0.43   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Thallium               | ND            |      | mg/Kg | 2.6    | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Vanadium               | 17            |      | mg/Kg | 0.86   | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Zinc                   | 16            |      | mg/Kg | 4.3    | 0.86 | 285755 | 03/17/22 | 03/17/22 | KLN     |
| Method: EPA 7471A      |               |      |       |        |      |        |          |          |         |
| Prep Method: METHOD    |               |      |       |        |      |        |          |          |         |
| Mercury                | ND            |      | mg/Kg | 0.15   | 1.1  | 285868 | 03/18/22 | 03/21/22 | SBW     |
| Method: EPA 8015M      |               |      |       |        |      |        |          |          |         |
| Prep Method: EPA 3580  |               |      |       |        |      |        |          |          |         |
| GRO C6-C10             | ND            |      | mg/Kg | 10     | 1    | 286017 | 03/22/22 | 03/24/22 | MES     |
| DRO C10-C28            | ND            |      | mg/Kg | 10     | 1    | 286017 | 03/22/22 | 03/24/22 | MES     |
| ORO C28-C44            | ND            |      | mg/Kg | 20     | 1    | 286017 | 03/22/22 | 03/24/22 | MES     |
| <b>Surrogates</b>      | <b>Limits</b> |      |       |        |      |        |          |          |         |
| n-Triacontane          | 84%           |      | %REC  | 70-130 | 1    | 286017 | 03/22/22 | 03/24/22 | MES     |
| Method: EPA 8081A      |               |      |       |        |      |        |          |          |         |
| Prep Method: EPA 3546  |               |      |       |        |      |        |          |          |         |
| alpha-BHC              | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| beta-BHC               | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| gamma-BHC              | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| delta-BHC              | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Heptachlor             | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Aldrin                 | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Heptachlor epoxide     | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Endosulfan I           | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Dieldrin               | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| 4,4'-DDE               | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Endrin                 | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Endosulfan II          | ND            |      | ug/Kg | 5.0    | 1    | 285738 | 03/17/22 | 03/21/22 | TRN     |

## Analysis Results for 459721

| 459721-002 Analyte    | Result | Qual | Units | RL  | DF | Batch  | Prepared | Analyzed | Chemist |
|-----------------------|--------|------|-------|-----|----|--------|----------|----------|---------|
| Endosulfan sulfate    | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| 4,4'-DDD              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Endrin aldehyde       | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Endrin ketone         | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| 4,4'-DDT              | ND     |      | ug/Kg | 5.0 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Methoxychlor          | ND     |      | ug/Kg | 10  | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Toxaphene             | ND     |      | ug/Kg | 100 | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |
| Chlordane (Technical) | ND     |      | ug/Kg | 50  | 1  | 285738 | 03/17/22 | 03/21/22 | TRN     |

### Surrogates

### Limits

|                    |     |      |        |   |        |          |          |     |
|--------------------|-----|------|--------|---|--------|----------|----------|-----|
| TCMX               | 75% | %REC | 23-120 | 1 | 285738 | 03/17/22 | 03/21/22 | TRN |
| Decachlorobiphenyl | 61% | %REC | 24-120 | 1 | 285738 | 03/17/22 | 03/21/22 | TRN |

Method: EPA 8082

Prep Method: EPA 3546

|              |    |  |       |    |   |        |          |          |     |
|--------------|----|--|-------|----|---|--------|----------|----------|-----|
| Aroclor-1016 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1221 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1232 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1242 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1248 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1254 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1260 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1262 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
| Aroclor-1268 | ND |  | ug/Kg | 50 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |

### Surrogates

### Limits

|                          |     |      |        |   |        |          |          |     |
|--------------------------|-----|------|--------|---|--------|----------|----------|-----|
| Decachlorobiphenyl (PCB) | 58% | %REC | 19-121 | 1 | 285738 | 03/17/22 | 03/19/22 | TRN |
|--------------------------|-----|------|--------|---|--------|----------|----------|-----|

Method: EPA 8260B

Prep Method: EPA 5030B

|                               |    |  |       |     |   |        |          |          |     |
|-------------------------------|----|--|-------|-----|---|--------|----------|----------|-----|
| 3-Chloropropene               | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| cis-1,4-Dichloro-2-butene     | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| trans-1,4-Dichloro-2-butene   | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Isopropyl Ether (DIPE)        | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Ethyl tert-Butyl Ether (ETBE) | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Methyl tert-Amyl Ether (TAME) | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| tert-Butyl Alcohol (TBA)      | ND |  | ug/Kg | 10  | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Freon 12                      | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Chloromethane                 | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Vinyl Chloride                | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Bromomethane                  | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Chloroethane                  | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Trichlorofluoromethane        | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Acetone                       | ND |  | ug/Kg | 100 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Freon 113                     | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| 1,1-Dichloroethene            | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| Methylene Chloride            | ND |  | ug/Kg | 15  | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| MTBE                          | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| trans-1,2-Dichloroethene      | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |
| 1,1-Dichloroethane            | ND |  | ug/Kg | 5.0 | 1 | 285634 | 03/16/22 | 03/16/22 | LXR |

## Analysis Results for 459721

| 459721-002 Analyte        | Result | Qual | Units | RL  | DF | Batch  | Prepared | Analyzed | Chemist |
|---------------------------|--------|------|-------|-----|----|--------|----------|----------|---------|
| 2-Butanone                | ND     |      | ug/Kg | 100 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| cis-1,2-Dichloroethene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 2,2-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Chloroform                | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromochloromethane        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,1-Trichloroethane     | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1-Dichloropropene       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Carbon Tetrachloride      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloroethane        | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Benzene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Trichloroethene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromodichloromethane      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Dibromomethane            | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 4-Methyl-2-Pentanone      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| cis-1,3-Dichloropropene   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Toluene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| trans-1,3-Dichloropropene | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,2-Trichloroethane     | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3-Dichloropropane       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Tetrachloroethene         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Dibromochloromethane      | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dibromoethane         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Chlorobenzene             | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,1,2-Tetrachloroethane | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Ethylbenzene              | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| m,p-Xylenes               | ND     |      | ug/Kg | 10  | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| o-Xylene                  | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Styrene                   | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromoform                 | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Isopropylbenzene          | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,1,2,2-Tetrachloroethane | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,3-Trichloropropane    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Propylbenzene             | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromobenzene              | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3,5-Trimethylbenzene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 2-Chlorotoluene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 4-Chlorotoluene           | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| tert-Butylbenzene         | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,4-Trimethylbenzene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| sec-Butylbenzene          | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| para-Isopropyl Toluene    | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,3-Dichlorobenzene       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,4-Dichlorobenzene       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| n-Butylbenzene            | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichlorobenzene       | ND     |      | ug/Kg | 5.0 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |

## Analysis Results for 459721

| 459721-002 Analyte          | Result | Qual | Units | RL     | DF | Batch  | Prepared | Analyzed | Chemist |
|-----------------------------|--------|------|-------|--------|----|--------|----------|----------|---------|
| 1,2-Dibromo-3-Chloropropane | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,4-Trichlorobenzene      | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Hexachlorobutadiene         | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Naphthalene                 | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2,3-Trichlorobenzene      | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Xylene (total)              | ND     |      | ug/Kg | 5.0    | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Surrogates                  | Limits |      |       |        |    |        |          |          |         |
| Dibromofluoromethane        | 96%    |      | %REC  | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| 1,2-Dichloroethane-d4       | 96%    |      | %REC  | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Toluene-d8                  | 107%   |      | %REC  | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |
| Bromofluorobenzene          | 96%    |      | %REC  | 70-145 | 1  | 285634 | 03/16/22 | 03/16/22 | LXR     |

ND Not Detected

## Batch QC

|                     |                          |                               |
|---------------------|--------------------------|-------------------------------|
| <b>Type: Blank</b>  | <b>Lab ID: QC978117</b>  | <b>Batch: 285755</b>          |
| <b>Matrix: Soil</b> | <b>Method: EPA 6010B</b> | <b>Prep Method: EPA 3050B</b> |

| QC978117 Analyte | Result | Qual | Units | RL   | Prepared | Analyzed |
|------------------|--------|------|-------|------|----------|----------|
| Antimony         | ND     |      | mg/Kg | 3.0  | 03/17/22 | 03/17/22 |
| Arsenic          | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Barium           | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Beryllium        | ND     |      | mg/Kg | 0.50 | 03/17/22 | 03/17/22 |
| Cadmium          | ND     |      | mg/Kg | 0.50 | 03/17/22 | 03/17/22 |
| Chromium         | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Cobalt           | ND     |      | mg/Kg | 0.50 | 03/17/22 | 03/17/22 |
| Copper           | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Lead             | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Molybdenum       | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Nickel           | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Selenium         | ND     |      | mg/Kg | 3.0  | 03/17/22 | 03/17/22 |
| Silver           | ND     |      | mg/Kg | 0.50 | 03/17/22 | 03/17/22 |
| Thallium         | ND     |      | mg/Kg | 3.0  | 03/17/22 | 03/17/22 |
| Vanadium         | ND     |      | mg/Kg | 1.0  | 03/17/22 | 03/17/22 |
| Zinc             | ND     |      | mg/Kg | 5.0  | 03/17/22 | 03/17/22 |

|                                 |                          |                               |
|---------------------------------|--------------------------|-------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC978118</b>  | <b>Batch: 285755</b>          |
| <b>Matrix: Soil</b>             | <b>Method: EPA 6010B</b> | <b>Prep Method: EPA 3050B</b> |

| QC978118 Analyte | Result | Spiked | Units | Recovery | Qual | Limits |
|------------------|--------|--------|-------|----------|------|--------|
| Antimony         | 83.03  | 100.0  | mg/Kg | 83%      |      | 80-120 |
| Arsenic          | 85.17  | 100.0  | mg/Kg | 85%      |      | 80-120 |
| Barium           | 90.50  | 100.0  | mg/Kg | 91%      |      | 80-120 |
| Beryllium        | 91.72  | 100.0  | mg/Kg | 92%      |      | 80-120 |
| Cadmium          | 87.77  | 100.0  | mg/Kg | 88%      |      | 80-120 |
| Chromium         | 87.11  | 100.0  | mg/Kg | 87%      |      | 80-120 |
| Cobalt           | 92.27  | 100.0  | mg/Kg | 92%      |      | 80-120 |
| Copper           | 84.19  | 100.0  | mg/Kg | 84%      |      | 80-120 |
| Lead             | 91.52  | 100.0  | mg/Kg | 92%      |      | 80-120 |
| Molybdenum       | 89.93  | 100.0  | mg/Kg | 90%      |      | 80-120 |
| Nickel           | 91.22  | 100.0  | mg/Kg | 91%      |      | 80-120 |
| Selenium         | 80.72  | 100.0  | mg/Kg | 81%      |      | 80-120 |
| Silver           | 41.64  | 50.00  | mg/Kg | 83%      |      | 80-120 |
| Thallium         | 92.02  | 100.0  | mg/Kg | 92%      |      | 80-120 |
| Vanadium         | 86.73  | 100.0  | mg/Kg | 87%      |      | 80-120 |
| Zinc             | 90.63  | 100.0  | mg/Kg | 91%      |      | 80-120 |



## Batch QC

|                                              |                          |                               |
|----------------------------------------------|--------------------------|-------------------------------|
| <b>Type: Matrix Spike</b>                    | <b>Lab ID: QC978119</b>  | <b>Batch: 285755</b>          |
| <b>Matrix (Source ID): Soil (459830-008)</b> | <b>Method: EPA 6010B</b> | <b>Prep Method: EPA 3050B</b> |

| QC978119 Analyte | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | DF   |
|------------------|--------|----------------------|--------|-------|----------|------|--------|------|
| Antimony         | 18.72  | ND                   | 97.09  | mg/Kg | 19%      | *    | 75-125 | 0.97 |
| Arsenic          | 97.24  | 5.669                | 97.09  | mg/Kg | 94%      |      | 75-125 | 0.97 |
| Barium           | 315.1  | 242.7                | 97.09  | mg/Kg | 75%      |      | 75-125 | 0.97 |
| Beryllium        | 95.78  | ND                   | 97.09  | mg/Kg | 99%      |      | 75-125 | 0.97 |
| Cadmium          | 93.67  | ND                   | 97.09  | mg/Kg | 96%      |      | 75-125 | 0.97 |
| Chromium         | 118.3  | 29.45                | 97.09  | mg/Kg | 91%      |      | 75-125 | 0.97 |
| Cobalt           | 107.0  | 15.69                | 97.09  | mg/Kg | 94%      |      | 75-125 | 0.97 |
| Copper           | 125.4  | 33.82                | 97.09  | mg/Kg | 94%      |      | 75-125 | 0.97 |
| Lead             | 95.58  | 5.962                | 97.09  | mg/Kg | 92%      |      | 75-125 | 0.97 |
| Molybdenum       | 93.13  | 0.8461               | 97.09  | mg/Kg | 95%      |      | 75-125 | 0.97 |
| Nickel           | 112.1  | 23.40                | 97.09  | mg/Kg | 91%      |      | 75-125 | 0.97 |
| Selenium         | 78.92  | ND                   | 97.09  | mg/Kg | 81%      |      | 75-125 | 0.97 |
| Silver           | 44.68  | ND                   | 48.54  | mg/Kg | 92%      |      | 75-125 | 0.97 |
| Thallium         | 91.02  | 0.5721               | 97.09  | mg/Kg | 93%      |      | 75-125 | 0.97 |
| Vanadium         | 157.1  | 62.78                | 97.09  | mg/Kg | 97%      |      | 75-125 | 0.97 |
| Zinc             | 181.9  | 90.22                | 97.09  | mg/Kg | 94%      |      | 75-125 | 0.97 |

|                                              |                          |                               |
|----------------------------------------------|--------------------------|-------------------------------|
| <b>Type: Matrix Spike Duplicate</b>          | <b>Lab ID: QC978120</b>  | <b>Batch: 285755</b>          |
| <b>Matrix (Source ID): Soil (459830-008)</b> | <b>Method: EPA 6010B</b> | <b>Prep Method: EPA 3050B</b> |

| QC978120 Analyte | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | RPD | Lim | DF   |
|------------------|--------|----------------------|--------|-------|----------|------|--------|-----|-----|------|
| Antimony         | 16.06  | ND                   | 87.72  | mg/Kg | 18%      | *    | 75-125 | 5   | 41  | 0.88 |
| Arsenic          | 84.42  | 5.669                | 87.72  | mg/Kg | 90%      |      | 75-125 | 5   | 35  | 0.88 |
| Barium           | 296.2  | 242.7                | 87.72  | mg/Kg | 61%      | *    | 75-125 | 3   | 20  | 0.88 |
| Beryllium        | 82.92  | ND                   | 87.72  | mg/Kg | 95%      |      | 75-125 | 4   | 20  | 0.88 |
| Cadmium          | 81.13  | ND                   | 87.72  | mg/Kg | 92%      |      | 75-125 | 4   | 20  | 0.88 |
| Chromium         | 105.6  | 29.45                | 87.72  | mg/Kg | 87%      |      | 75-125 | 4   | 20  | 0.88 |
| Cobalt           | 93.79  | 15.69                | 87.72  | mg/Kg | 89%      |      | 75-125 | 5   | 20  | 0.88 |
| Copper           | 112.8  | 33.82                | 87.72  | mg/Kg | 90%      |      | 75-125 | 3   | 20  | 0.88 |
| Lead             | 83.50  | 5.962                | 87.72  | mg/Kg | 88%      |      | 75-125 | 4   | 20  | 0.88 |
| Molybdenum       | 80.30  | 0.8461               | 87.72  | mg/Kg | 91%      |      | 75-125 | 5   | 20  | 0.88 |
| Nickel           | 99.10  | 23.40                | 87.72  | mg/Kg | 86%      |      | 75-125 | 4   | 20  | 0.88 |
| Selenium         | 68.22  | ND                   | 87.72  | mg/Kg | 78%      |      | 75-125 | 4   | 20  | 0.88 |
| Silver           | 38.77  | ND                   | 43.86  | mg/Kg | 88%      |      | 75-125 | 4   | 20  | 0.88 |
| Thallium         | 79.49  | 0.5721               | 87.72  | mg/Kg | 90%      |      | 75-125 | 3   | 20  | 0.88 |
| Vanadium         | 142.4  | 62.78                | 87.72  | mg/Kg | 91%      |      | 75-125 | 4   | 20  | 0.88 |
| Zinc             | 167.4  | 90.22                | 87.72  | mg/Kg | 88%      |      | 75-125 | 3   | 20  | 0.88 |

## Batch QC

|                     |                          |                            |
|---------------------|--------------------------|----------------------------|
| <b>Type: Blank</b>  | <b>Lab ID: QC978404</b>  | <b>Batch: 285868</b>       |
| <b>Matrix: Soil</b> | <b>Method: EPA 7471A</b> | <b>Prep Method: METHOD</b> |

| QC978404 Analyte | Result | Qual | Units | RL   | Prepared | Analyzed |
|------------------|--------|------|-------|------|----------|----------|
| Mercury          | ND     |      | mg/Kg | 0.14 | 03/18/22 | 03/21/22 |

|                                 |                          |                            |
|---------------------------------|--------------------------|----------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC978405</b>  | <b>Batch: 285868</b>       |
| <b>Matrix: Soil</b>             | <b>Method: EPA 7471A</b> | <b>Prep Method: METHOD</b> |

| QC978405 Analyte | Result | Spiked | Units | Recovery | Qual | Limits |
|------------------|--------|--------|-------|----------|------|--------|
| Mercury          | 0.9893 | 0.8333 | mg/Kg | 119%     | b    | 80-120 |

|                                              |                          |                            |
|----------------------------------------------|--------------------------|----------------------------|
| <b>Type: Matrix Spike</b>                    | <b>Lab ID: QC978406</b>  | <b>Batch: 285868</b>       |
| <b>Matrix (Source ID): Soil (459830-008)</b> | <b>Method: EPA 7471A</b> | <b>Prep Method: METHOD</b> |

| QC978406 Analyte | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | DF |
|------------------|--------|----------------------|--------|-------|----------|------|--------|----|
| Mercury          | 1.273  | 0.09016              | 0.8333 | mg/Kg | 142%     | b,*  | 75-125 | 1  |

|                                              |                          |                            |
|----------------------------------------------|--------------------------|----------------------------|
| <b>Type: Matrix Spike Duplicate</b>          | <b>Lab ID: QC978407</b>  | <b>Batch: 285868</b>       |
| <b>Matrix (Source ID): Soil (459830-008)</b> | <b>Method: EPA 7471A</b> | <b>Prep Method: METHOD</b> |

| QC978407 Analyte | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | RPD | Lim | DF  |
|------------------|--------|----------------------|--------|-------|----------|------|--------|-----|-----|-----|
| Mercury          | 1.388  | 0.09016              | 1.000  | mg/Kg | 130%     | b,*  | 75-125 | 8   | 20  | 1.2 |

|                     |                          |                              |
|---------------------|--------------------------|------------------------------|
| <b>Type: Blank</b>  | <b>Lab ID: QC978893</b>  | <b>Batch: 286017</b>         |
| <b>Matrix: Soil</b> | <b>Method: EPA 8015M</b> | <b>Prep Method: EPA 3580</b> |

| QC978893 Analyte | Result | Qual | Units | RL     | Prepared | Analyzed |
|------------------|--------|------|-------|--------|----------|----------|
| GRO C6-C10       | ND     |      | mg/Kg | 10     | 03/22/22 | 03/23/22 |
| DRO C10-C28      | ND     |      | mg/Kg | 10     | 03/22/22 | 03/23/22 |
| ORO C28-C44      | ND     |      | mg/Kg | 20     | 03/22/22 | 03/23/22 |
| Surrogates       |        |      |       | Limits |          |          |
| n-Triacontane    | 84%    |      | %REC  | 70-130 | 03/22/22 | 03/23/22 |

|                                 |                          |                              |
|---------------------------------|--------------------------|------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC978894</b>  | <b>Batch: 286017</b>         |
| <b>Matrix: Soil</b>             | <b>Method: EPA 8015M</b> | <b>Prep Method: EPA 3580</b> |

| QC978894 Analyte | Result | Spiked | Units | Recovery | Qual | Limits |
|------------------|--------|--------|-------|----------|------|--------|
| Diesel C10-C28   | 236.7  | 250.0  | mg/Kg | 95%      |      | 76-122 |
| Surrogates       |        |        |       |          |      |        |
| n-Triacontane    | 10.06  | 10.00  | mg/Kg | 101%     |      | 70-130 |

## Batch QC

|                                              |                          |                              |
|----------------------------------------------|--------------------------|------------------------------|
| <b>Type: Matrix Spike</b>                    | <b>Lab ID: QC978895</b>  | <b>Batch: 286017</b>         |
| <b>Matrix (Source ID): Soil (460023-001)</b> | <b>Method: EPA 8015M</b> | <b>Prep Method: EPA 3580</b> |

| QC978895 Analyte  | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | DF |
|-------------------|--------|----------------------|--------|-------|----------|------|--------|----|
| Diesel C10-C28    | 225.6  | 1.798                | 250.0  | mg/Kg | 90%      |      | 62-126 | 1  |
| <b>Surrogates</b> |        |                      |        |       |          |      |        |    |
| n-Triacontane     | 10.10  |                      | 10.00  | mg/Kg | 101%     |      | 70-130 | 1  |

|                                              |                          |                              |
|----------------------------------------------|--------------------------|------------------------------|
| <b>Type: Matrix Spike Duplicate</b>          | <b>Lab ID: QC978896</b>  | <b>Batch: 286017</b>         |
| <b>Matrix (Source ID): Soil (460023-001)</b> | <b>Method: EPA 8015M</b> | <b>Prep Method: EPA 3580</b> |

| QC978896 Analyte  | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | RPD | RPD Lim | DF |
|-------------------|--------|----------------------|--------|-------|----------|------|--------|-----|---------|----|
| Diesel C10-C28    | 231.4  | 1.798                | 250.0  | mg/Kg | 92%      |      | 62-126 | 3   | 35      | 1  |
| <b>Surrogates</b> |        |                      |        |       |          |      |        |     |         |    |
| n-Triacontane     | 10.02  |                      | 10.00  | mg/Kg | 100%     |      | 70-130 |     |         | 1  |

## Batch QC

|                     |                         |                      |
|---------------------|-------------------------|----------------------|
| <b>Type: Blank</b>  | <b>Lab ID: QC978044</b> | <b>Batch: 285738</b> |
| <b>Matrix: Soil</b> |                         |                      |

| QC978044 Analyte         | Result        | Qual | Units | RL     | Prepared | Analyzed |
|--------------------------|---------------|------|-------|--------|----------|----------|
| Method: EPA 8081A        |               |      |       |        |          |          |
| Prep Method: EPA 3546    |               |      |       |        |          |          |
| alpha-BHC                | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| beta-BHC                 | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| gamma-BHC                | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| delta-BHC                | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Heptachlor               | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Aldrin                   | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Heptachlor epoxide       | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endosulfan I             | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Dieldrin                 | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| 4,4'-DDE                 | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endrin                   | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endosulfan II            | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endosulfan sulfate       | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| 4,4'-DDD                 | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endrin aldehyde          | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Endrin ketone            | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| 4,4'-DDT                 | ND            |      | ug/Kg | 5.0    | 03/17/22 | 03/19/22 |
| Methoxychlor             | ND            |      | ug/Kg | 10     | 03/17/22 | 03/19/22 |
| Toxaphene                | ND            |      | ug/Kg | 100    | 03/17/22 | 03/19/22 |
| Chlordane (Technical)    | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| <b>Surrogates</b>        | <b>Limits</b> |      |       |        |          |          |
| TCMX                     | 96%           |      | %REC  | 23-120 | 03/17/22 | 03/19/22 |
| Decachlorobiphenyl       | 102%          |      | %REC  | 24-120 | 03/17/22 | 03/19/22 |
| Method: EPA 8082         |               |      |       |        |          |          |
| Prep Method: EPA 3546    |               |      |       |        |          |          |
| Aroclor-1016             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1221             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1232             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1242             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1248             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1254             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1260             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1262             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| Aroclor-1268             | ND            |      | ug/Kg | 50     | 03/17/22 | 03/19/22 |
| <b>Surrogates</b>        | <b>Limits</b> |      |       |        |          |          |
| Decachlorobiphenyl (PCB) | 91%           |      | %REC  | 19-121 | 03/17/22 | 03/19/22 |

## Batch QC

|                                 |                          |                              |
|---------------------------------|--------------------------|------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC978045</b>  | <b>Batch: 285738</b>         |
| <b>Matrix: Soil</b>             | <b>Method: EPA 8081A</b> | <b>Prep Method: EPA 3546</b> |

| QC978045 Analyte   | Result | Spiked | Units | Recovery | Qual | Limits |
|--------------------|--------|--------|-------|----------|------|--------|
| alpha-BHC          | 52.57  | 50.00  | ug/Kg | 105%     |      | 22-129 |
| beta-BHC           | 52.02  | 50.00  | ug/Kg | 104%     |      | 28-125 |
| gamma-BHC          | 51.70  | 50.00  | ug/Kg | 103%     |      | 22-128 |
| delta-BHC          | 51.51  | 50.00  | ug/Kg | 103%     |      | 24-131 |
| Heptachlor         | 52.26  | 50.00  | ug/Kg | 105%     |      | 18-124 |
| Aldrin             | 45.84  | 50.00  | ug/Kg | 92%      |      | 23-120 |
| Heptachlor epoxide | 50.03  | 50.00  | ug/Kg | 100%     |      | 26-120 |
| Endosulfan I       | 57.25  | 50.00  | ug/Kg | 115%     |      | 25-126 |
| Dieldrin           | 53.41  | 50.00  | ug/Kg | 107%     |      | 23-124 |
| 4,4'-DDE           | 54.95  | 50.00  | ug/Kg | 110%     |      | 28-121 |
| Endrin             | 58.11  | 50.00  | ug/Kg | 116%     |      | 25-127 |
| Endosulfan II      | 56.29  | 50.00  | ug/Kg | 113%     |      | 29-121 |
| Endosulfan sulfate | 55.36  | 50.00  | ug/Kg | 111%     |      | 30-121 |
| 4,4'-DDD           | 53.27  | 50.00  | ug/Kg | 107%     |      | 26-120 |
| Endrin aldehyde    | 41.59  | 50.00  | ug/Kg | 83%      |      | 10-120 |
| Endrin ketone      | 57.89  | 50.00  | ug/Kg | 116%     |      | 28-125 |
| 4,4'-DDT           | 58.72  | 50.00  | ug/Kg | 117%     |      | 22-125 |
| Methoxychlor       | 56.92  | 50.00  | ug/Kg | 114%     |      | 28-130 |
| <b>Surrogates</b>  |        |        |       |          |      |        |
| TCMX               | 47.16  | 50.00  | ug/Kg | 94%      |      | 23-120 |
| Decachlorobiphenyl | 51.37  | 50.00  | ug/Kg | 103%     |      | 24-120 |

## Batch QC

|                                              |                          |                              |
|----------------------------------------------|--------------------------|------------------------------|
| <b>Type: Matrix Spike</b>                    | <b>Lab ID: QC978046</b>  | <b>Batch: 285738</b>         |
| <b>Matrix (Source ID): Soil (459778-021)</b> | <b>Method: EPA 8081A</b> | <b>Prep Method: EPA 3546</b> |

| QC978046 Analyte   | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | DF |
|--------------------|--------|----------------------|--------|-------|----------|------|--------|----|
| alpha-BHC          | 41.71  | ND                   | 50.00  | ug/Kg | 83%      |      | 46-120 | 1  |
| beta-BHC           | 44.45  | ND                   | 50.00  | ug/Kg | 89%      |      | 41-120 | 1  |
| gamma-BHC          | 41.34  | ND                   | 50.00  | ug/Kg | 83%      |      | 41-120 | 1  |
| delta-BHC          | 41.64  | ND                   | 50.00  | ug/Kg | 83%      |      | 38-123 | 1  |
| Heptachlor         | 41.84  | ND                   | 50.00  | ug/Kg | 84%      |      | 39-120 | 1  |
| Aldrin             | 38.01  | ND                   | 50.00  | ug/Kg | 76%      |      | 34-120 | 1  |
| Heptachlor epoxide | 40.06  | ND                   | 50.00  | ug/Kg | 80%      |      | 43-120 | 1  |
| Endosulfan I       | 45.89  | ND                   | 50.00  | ug/Kg | 92%      |      | 45-120 | 1  |
| Dieldrin           | 43.11  | ND                   | 50.00  | ug/Kg | 86%      |      | 45-120 | 1  |
| 4,4'-DDE           | 43.61  | ND                   | 50.00  | ug/Kg | 87%      |      | 34-120 | 1  |
| Endrin             | 45.12  | ND                   | 50.00  | ug/Kg | 90%      |      | 40-120 | 1  |
| Endosulfan II      | 44.72  | ND                   | 50.00  | ug/Kg | 89%      |      | 41-120 | 1  |
| Endosulfan sulfate | 43.56  | ND                   | 50.00  | ug/Kg | 87%      |      | 42-120 | 1  |
| 4,4'-DDD           | 40.84  | ND                   | 50.00  | ug/Kg | 82%      |      | 41-120 | 1  |
| Endrin aldehyde    | 33.37  | ND                   | 50.00  | ug/Kg | 67%      |      | 30-120 | 1  |
| Endrin ketone      | 41.88  | ND                   | 50.00  | ug/Kg | 84%      |      | 45-120 | 1  |
| 4,4'-DDT           | 47.80  | ND                   | 50.00  | ug/Kg | 96%      |      | 35-127 | 1  |
| Methoxychlor       | 45.77  | ND                   | 50.00  | ug/Kg | 92%      |      | 42-136 | 1  |
| <b>Surrogates</b>  |        |                      |        |       |          |      |        |    |
| TCMX               | 37.82  |                      | 50.00  | ug/Kg | 76%      |      | 23-120 | 1  |
| Decachlorobiphenyl | 40.72  |                      | 50.00  | ug/Kg | 81%      |      | 24-120 | 1  |

## Batch QC

|                                              |                          |                              |
|----------------------------------------------|--------------------------|------------------------------|
| <b>Type: Matrix Spike Duplicate</b>          | <b>Lab ID: QC978047</b>  | <b>Batch: 285738</b>         |
| <b>Matrix (Source ID): Soil (459778-021)</b> | <b>Method: EPA 8081A</b> | <b>Prep Method: EPA 3546</b> |

| QC978047 Analyte   | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | RPD | RPD Lim | DF |
|--------------------|--------|----------------------|--------|-------|----------|------|--------|-----|---------|----|
| alpha-BHC          | 48.27  | ND                   | 50.00  | ug/Kg | 97%      |      | 46-120 | 15  | 30      | 1  |
| beta-BHC           | 49.28  | ND                   | 50.00  | ug/Kg | 99%      |      | 41-120 | 10  | 30      | 1  |
| gamma-BHC          | 47.48  | ND                   | 50.00  | ug/Kg | 95%      |      | 41-120 | 14  | 30      | 1  |
| delta-BHC          | 46.45  | ND                   | 50.00  | ug/Kg | 93%      |      | 38-123 | 11  | 30      | 1  |
| Heptachlor         | 47.32  | ND                   | 50.00  | ug/Kg | 95%      |      | 39-120 | 12  | 30      | 1  |
| Aldrin             | 43.09  | ND                   | 50.00  | ug/Kg | 86%      |      | 34-120 | 13  | 30      | 1  |
| Heptachlor epoxide | 44.61  | ND                   | 50.00  | ug/Kg | 89%      |      | 43-120 | 11  | 30      | 1  |
| Endosulfan I       | 50.73  | ND                   | 50.00  | ug/Kg | 101%     |      | 45-120 | 10  | 30      | 1  |
| Dieldrin           | 47.53  | ND                   | 50.00  | ug/Kg | 95%      |      | 45-120 | 10  | 30      | 1  |
| 4,4'-DDE           | 50.23  | ND                   | 50.00  | ug/Kg | 100%     |      | 34-120 | 14  | 30      | 1  |
| Endrin             | 50.58  | ND                   | 50.00  | ug/Kg | 101%     |      | 40-120 | 11  | 30      | 1  |
| Endosulfan II      | 49.48  | ND                   | 50.00  | ug/Kg | 99%      |      | 41-120 | 10  | 30      | 1  |
| Endosulfan sulfate | 47.13  | ND                   | 50.00  | ug/Kg | 94%      |      | 42-120 | 8   | 30      | 1  |
| 4,4'-DDD           | 45.23  | ND                   | 50.00  | ug/Kg | 90%      |      | 41-120 | 10  | 30      | 1  |
| Endrin aldehyde    | 35.36  | ND                   | 50.00  | ug/Kg | 71%      |      | 30-120 | 6   | 30      | 1  |
| Endrin ketone      | 45.60  | ND                   | 50.00  | ug/Kg | 91%      |      | 45-120 | 9   | 30      | 1  |
| 4,4'-DDT           | 53.56  | ND                   | 50.00  | ug/Kg | 107%     |      | 35-127 | 11  | 30      | 1  |
| Methoxychlor       | 48.23  | ND                   | 50.00  | ug/Kg | 96%      |      | 42-136 | 5   | 30      | 1  |
| <b>Surrogates</b>  |        |                      |        |       |          |      |        |     |         |    |
| TCMX               | 42.73  |                      | 50.00  | ug/Kg | 85%      |      | 23-120 |     |         | 1  |
| Decachlorobiphenyl | 43.08  |                      | 50.00  | ug/Kg | 86%      |      | 24-120 |     |         | 1  |

|                                 |                         |                              |
|---------------------------------|-------------------------|------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC978048</b> | <b>Batch: 285738</b>         |
| <b>Matrix: Soil</b>             | <b>Method: EPA 8082</b> | <b>Prep Method: EPA 3546</b> |

| QC978048 Analyte         | Result | Spiked | Units | Recovery | Qual | Limits |
|--------------------------|--------|--------|-------|----------|------|--------|
| Aroclor-1016             | 468.4  | 500.0  | ug/Kg | 94%      |      | 14-150 |
| Aroclor-1260             | 485.5  | 500.0  | ug/Kg | 97%      |      | 10-150 |
| <b>Surrogates</b>        |        |        |       |          |      |        |
| Decachlorobiphenyl (PCB) | 38.73  | 50.00  | ug/Kg | 77%      |      | 19-121 |



## Batch QC

|                                              |                         |                              |
|----------------------------------------------|-------------------------|------------------------------|
| <b>Type: Matrix Spike</b>                    | <b>Lab ID: QC978049</b> | <b>Batch: 285738</b>         |
| <b>Matrix (Source ID): Soil (459778-021)</b> | <b>Method: EPA 8082</b> | <b>Prep Method: EPA 3546</b> |

| QC978049 Analyte         | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | DF |
|--------------------------|--------|----------------------|--------|-------|----------|------|--------|----|
| Aroclor-1016             | 410.3  | ND                   | 500.0  | ug/Kg | 82%      |      | 42-127 | 1  |
| Aroclor-1260             | 433.0  | ND                   | 500.0  | ug/Kg | 87%      |      | 38-130 | 1  |
| <b>Surrogates</b>        |        |                      |        |       |          |      |        |    |
| Decachlorobiphenyl (PCB) | 34.09  |                      | 50.00  | ug/Kg | 68%      |      | 19-121 | 1  |

|                                              |                         |                              |
|----------------------------------------------|-------------------------|------------------------------|
| <b>Type: Matrix Spike Duplicate</b>          | <b>Lab ID: QC978050</b> | <b>Batch: 285738</b>         |
| <b>Matrix (Source ID): Soil (459778-021)</b> | <b>Method: EPA 8082</b> | <b>Prep Method: EPA 3546</b> |

| QC978050 Analyte         | Result | Source Sample Result | Spiked | Units | Recovery | Qual | Limits | RPD | RPD Lim | DF |
|--------------------------|--------|----------------------|--------|-------|----------|------|--------|-----|---------|----|
| Aroclor-1016             | 448.3  | ND                   | 500.0  | ug/Kg | 90%      |      | 42-127 | 9   | 30      | 1  |
| Aroclor-1260             | 455.7  | ND                   | 500.0  | ug/Kg | 91%      |      | 38-130 | 5   | 30      | 1  |
| <b>Surrogates</b>        |        |                      |        |       |          |      |        |     |         |    |
| Decachlorobiphenyl (PCB) | 36.46  |                      | 50.00  | ug/Kg | 73%      |      | 19-121 |     |         | 1  |

## Batch QC

|                     |                          |                               |
|---------------------|--------------------------|-------------------------------|
| <b>Type: Blank</b>  | <b>Lab ID: QC977759</b>  | <b>Batch: 285634</b>          |
| <b>Matrix: Soil</b> | <b>Method: EPA 8260B</b> | <b>Prep Method: EPA 5030B</b> |

| QC977759 Analyte              | Result | Qual | Units | RL  | Prepared | Analyzed |
|-------------------------------|--------|------|-------|-----|----------|----------|
| 3-Chloropropene               | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| cis-1,4-Dichloro-2-butene     | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| trans-1,4-Dichloro-2-butene   | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Isopropyl Ether (DIPE)        | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Ethyl tert-Butyl Ether (ETBE) | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Methyl tert-Amyl Ether (TAME) | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| tert-Butyl Alcohol (TBA)      | ND     |      | ug/Kg | 10  | 03/16/22 | 03/16/22 |
| Freon 12                      | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Chloromethane                 | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Vinyl Chloride                | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Bromomethane                  | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Chloroethane                  | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Trichlorofluoromethane        | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Acetone                       | ND     |      | ug/Kg | 100 | 03/16/22 | 03/16/22 |
| Freon 113                     | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,1-Dichloroethene            | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Methylene Chloride            | ND     |      | ug/Kg | 15  | 03/16/22 | 03/16/22 |
| MTBE                          | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| trans-1,2-Dichloroethene      | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,1-Dichloroethane            | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 2-Butanone                    | ND     |      | ug/Kg | 100 | 03/16/22 | 03/16/22 |
| cis-1,2-Dichloroethene        | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 2,2-Dichloropropane           | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Chloroform                    | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Bromochloromethane            | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,1,1-Trichloroethane         | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,1-Dichloropropene           | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Carbon Tetrachloride          | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,2-Dichloroethane            | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Benzene                       | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Trichloroethene               | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,2-Dichloropropane           | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Bromodichloromethane          | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Dibromomethane                | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 4-Methyl-2-Pentanone          | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| cis-1,3-Dichloropropene       | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Toluene                       | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| trans-1,3-Dichloropropene     | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,1,2-Trichloroethane         | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| 1,3-Dichloropropane           | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Tetrachloroethene             | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |
| Dibromochloromethane          | ND     |      | ug/Kg | 5.0 | 03/16/22 | 03/16/22 |

## Batch QC

| QC977759 Analyte            | Result | Qual | Units | RL     | Prepared | Analyzed |
|-----------------------------|--------|------|-------|--------|----------|----------|
| 1,2-Dibromoethane           | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Chlorobenzene               | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,1,1,2-Tetrachloroethane   | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Ethylbenzene                | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| m,p-Xylenes                 | ND     |      | ug/Kg | 10     | 03/16/22 | 03/16/22 |
| o-Xylene                    | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Styrene                     | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Bromoform                   | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Isopropylbenzene            | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,1,2,2-Tetrachloroethane   | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2,3-Trichloropropane      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Propylbenzene               | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Bromobenzene                | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,3,5-Trimethylbenzene      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 2-Chlorotoluene             | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 4-Chlorotoluene             | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| tert-Butylbenzene           | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2,4-Trimethylbenzene      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| sec-Butylbenzene            | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| para-Isopropyl Toluene      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,3-Dichlorobenzene         | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,4-Dichlorobenzene         | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| n-Butylbenzene              | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2-Dichlorobenzene         | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2-Dibromo-3-Chloropropane | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2,4-Trichlorobenzene      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Hexachlorobutadiene         | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Naphthalene                 | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| 1,2,3-Trichlorobenzene      | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Xylene (total)              | ND     |      | ug/Kg | 5.0    | 03/16/22 | 03/16/22 |
| Surrogates                  | Limits |      |       |        |          |          |
| Dibromofluoromethane        | 94%    |      | %REC  | 70-130 | 03/16/22 | 03/16/22 |
| 1,2-Dichloroethane-d4       | 97%    |      | %REC  | 70-145 | 03/16/22 | 03/16/22 |
| Toluene-d8                  | 106%   |      | %REC  | 70-145 | 03/16/22 | 03/16/22 |
| Bromofluorobenzene          | 98%    |      | %REC  | 70-145 | 03/16/22 | 03/16/22 |

## Batch QC

|                                 |                          |                               |
|---------------------------------|--------------------------|-------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC977760</b>  | <b>Batch: 285634</b>          |
| <b>Matrix: Soil</b>             | <b>Method: EPA 8260B</b> | <b>Prep Method: EPA 5030B</b> |

| QC977760 Analyte      | Result | Spiked | Units | Recovery | Qual | Limits |
|-----------------------|--------|--------|-------|----------|------|--------|
| 1,1-Dichloroethene    | 39.09  | 50.00  | ug/Kg | 78%      |      | 70-131 |
| MTBE                  | 43.02  | 50.00  | ug/Kg | 86%      |      | 69-130 |
| Benzene               | 47.47  | 50.00  | ug/Kg | 95%      |      | 70-130 |
| Trichloroethene       | 50.88  | 50.00  | ug/Kg | 102%     |      | 70-130 |
| Toluene               | 49.01  | 50.00  | ug/Kg | 98%      |      | 70-130 |
| Chlorobenzene         | 48.83  | 50.00  | ug/Kg | 98%      |      | 70-130 |
| <b>Surrogates</b>     |        |        |       |          |      |        |
| Dibromofluoromethane  | 49.31  | 50.00  | ug/Kg | 99%      |      | 70-130 |
| 1,2-Dichloroethane-d4 | 46.86  | 50.00  | ug/Kg | 94%      |      | 70-145 |
| Toluene-d8            | 53.15  | 50.00  | ug/Kg | 106%     |      | 70-145 |
| Bromofluorobenzene    | 50.23  | 50.00  | ug/Kg | 100%     |      | 70-145 |

|                                           |                          |                               |
|-------------------------------------------|--------------------------|-------------------------------|
| <b>Type: Lab Control Sample Duplicate</b> | <b>Lab ID: QC977761</b>  | <b>Batch: 285634</b>          |
| <b>Matrix: Soil</b>                       | <b>Method: EPA 8260B</b> | <b>Prep Method: EPA 5030B</b> |

| QC977761 Analyte      | Result | Spiked | Units | Recovery | Qual | Limits | RPD | Lim |
|-----------------------|--------|--------|-------|----------|------|--------|-----|-----|
| 1,1-Dichloroethene    | 40.32  | 50.00  | ug/Kg | 81%      |      | 70-131 | 3   | 33  |
| MTBE                  | 45.42  | 50.00  | ug/Kg | 91%      |      | 69-130 | 5   | 30  |
| Benzene               | 51.51  | 50.00  | ug/Kg | 103%     |      | 70-130 | 8   | 30  |
| Trichloroethene       | 56.04  | 50.00  | ug/Kg | 112%     |      | 70-130 | 10  | 30  |
| Toluene               | 53.85  | 50.00  | ug/Kg | 108%     |      | 70-130 | 9   | 30  |
| Chlorobenzene         | 54.52  | 50.00  | ug/Kg | 109%     |      | 70-130 | 11  | 30  |
| <b>Surrogates</b>     |        |        |       |          |      |        |     |     |
| Dibromofluoromethane  | 49.40  | 50.00  | ug/Kg | 99%      |      | 70-130 |     |     |
| 1,2-Dichloroethane-d4 | 47.44  | 50.00  | ug/Kg | 95%      |      | 70-145 |     |     |
| Toluene-d8            | 53.56  | 50.00  | ug/Kg | 107%     |      | 70-145 |     |     |
| Bromofluorobenzene    | 50.36  | 50.00  | ug/Kg | 101%     |      | 70-145 |     |     |

## Batch QC

|                                 |                          |                               |
|---------------------------------|--------------------------|-------------------------------|
| <b>Type: Lab Control Sample</b> | <b>Lab ID: QC977880</b>  | <b>Batch: 285634</b>          |
| <b>Matrix: Soil</b>             | <b>Method: EPA 8260B</b> | <b>Prep Method: EPA 5030B</b> |

| QC977880 Analyte      | Result | Spiked | Units | Recovery | Qual | Limits |
|-----------------------|--------|--------|-------|----------|------|--------|
| 1,1-Dichloroethene    | 42.94  | 50.00  | ug/Kg | 86%      |      | 70-131 |
| MTBE                  | 35.87  | 50.00  | ug/Kg | 72%      |      | 69-130 |
| Benzene               | 42.95  | 50.00  | ug/Kg | 86%      |      | 70-130 |
| Trichloroethene       | 49.02  | 50.00  | ug/Kg | 98%      |      | 70-130 |
| Toluene               | 46.42  | 50.00  | ug/Kg | 93%      |      | 70-130 |
| Chlorobenzene         | 45.96  | 50.00  | ug/Kg | 92%      |      | 70-130 |
| <b>Surrogates</b>     |        |        |       |          |      |        |
| Dibromofluoromethane  | 48.35  | 50.00  | ug/Kg | 97%      |      | 70-130 |
| 1,2-Dichloroethane-d4 | 47.21  | 50.00  | ug/Kg | 94%      |      | 70-145 |
| Toluene-d8            | 54.75  | 50.00  | ug/Kg | 109%     |      | 70-145 |
| Bromofluorobenzene    | 50.32  | 50.00  | ug/Kg | 101%     |      | 70-145 |

\* Value is outside QC limits

ND Not Detected

b See narrative

**Laboratory Job Number 459721**

**Subcontracted Products**

**McCampbell Analytical, Inc.**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 2203996

**Report Created for:** Enthalpy Analytical

1108 West Barkley Avenue  
Orange, CA 92868

**Project Contact:** Ranjit Clarke

**Project P.O.:** 024757

**Project:** EO-459721

**Project Received:** 03/16/2022

Analytical Report reviewed & approved for release on 03/23/2022 by:

Yen Cao

Project Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.*







## Glossary of Terms & Qualifier Definitions

**Client:** Enthalpy Analytical

**WorkOrder:** 2203996

**Project:** EO-459721

### Glossary Abbreviation

|              |                                                                                          |
|--------------|------------------------------------------------------------------------------------------|
| %D           | Serial Dilution Percent Difference                                                       |
| 95% Interval | 95% Confident Interval                                                                   |
| CPT          | Consumer Product Testing not NELAP Accredited                                            |
| DF           | Dilution Factor                                                                          |
| DI WET       | (DISTLC) Waste Extraction Test using DI water                                            |
| DISS         | Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)               |
| DLT          | Dilution Test (Serial Dilution)                                                          |
| DUP          | Duplicate                                                                                |
| EDL          | Estimated Detection Limit                                                                |
| ERS          | External reference sample. Second source calibration verification.                       |
| ITEF         | International Toxicity Equivalence Factor                                                |
| LCS          | Laboratory Control Sample                                                                |
| LQL          | Lowest Quantitation Level                                                                |
| MB           | Method Blank                                                                             |
| MB % Rec     | % Recovery of Surrogate in Method Blank, if applicable                                   |
| MDL          | Method Detection Limit                                                                   |
| ML           | Minimum Level of Quantitation                                                            |
| MS           | Matrix Spike                                                                             |
| MSD          | Matrix Spike Duplicate                                                                   |
| NA           | Not Applicable                                                                           |
| ND           | Not detected at or above the indicated MDL or RL                                         |
| NR           | Data Not Reported due to matrix interference or insufficient sample amount.              |
| PDS          | Post Digestion Spike                                                                     |
| PDSD         | Post Digestion Spike Duplicate                                                           |
| PF           | Prep Factor                                                                              |
| RD           | Relative Difference                                                                      |
| RL           | Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.) |
| RPD          | Relative Percent Deviation                                                               |
| RRT          | Relative Retention Time                                                                  |
| SPK Val      | Spike Value                                                                              |
| SPKRef Val   | Spike Reference Value                                                                    |
| SPLP         | Synthetic Precipitation Leachate Procedure                                               |
| ST           | Sorbent Tube                                                                             |
| TCLP         | Toxicity Characteristic Leachate Procedure                                               |
| TEQ          | Toxicity Equivalents                                                                     |
| TZA          | TimeZone Net Adjustment for sample collected outside of MAI's UTC.                       |
| WET (STLC)   | Waste Extraction Test (Soluble Threshold Limit Concentration)                            |



## Glossary of Terms & Qualifier Definitions

**Client:** Enthalpy Analytical

**WorkOrder:** 2203996

**Project:** EO-459721

### Analytical Qualifiers

a3 Sample diluted due to high organic content interfering with quantitative/or qualitative analysis.

DRAFT



## Analytical Report

**Client:** Enthalpy Analytical  
**Date Received:** 03/16/2022 12:05  
**Date Prepared:** 03/17/2022  
**Project:** EO-459721

**WorkOrder:** 2203996  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID       | Matrix | Date Collected   | Instrument       | Batch ID |
|-----------|--------------|--------|------------------|------------------|----------|
| B-1@2'    | 2203996-001A | Soil   | 03/11/2022 07:50 | GC15A 03172225.D | 241453   |

| Analytes                               | Result | RL    | DF | Date Analyzed    |
|----------------------------------------|--------|-------|----|------------------|
| Acifluorfen                            | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Bentazon                               | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Chloramben                             | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| 2,4-D (Dichlorophenoxyacetic acid)     | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| 2,4-DB                                 | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Dalapon                                | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| DCPA (mono & diacid)                   | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Dicamba                                | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| 3,5-Dichlorobenzoic Acid               | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Dichloroprop                           | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Dinoseb (DNBP)                         | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| MCPA                                   | ND     | 5.0   | 5  | 03/17/2022 23:51 |
| MCPP                                   | ND     | 5.0   | 5  | 03/17/2022 23:51 |
| 4-Nitrophenol                          | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Pentachlorophenol (PCP)                | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| Picloram                               | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND     | 0.050 | 5  | 03/17/2022 23:51 |
| 2,4,5-TP (Silvex)                      | ND     | 0.050 | 5  | 03/17/2022 23:51 |

| Surrogates | REC (%) | Limits |                  |
|------------|---------|--------|------------------|
| DCAA       | 83      | 60-140 | 03/17/2022 23:51 |

**Analyst(s):** DP

**Analytical Comments:** a3

(Cont.)



## Analytical Report

**Client:** Enthalpy Analytical  
**Date Received:** 03/16/2022 12:05  
**Date Prepared:** 03/17/2022  
**Project:** EO-459721

**WorkOrder:** 2203996  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg

### Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID       | Matrix | Date Collected   | Instrument       | Batch ID |
|-----------|--------------|--------|------------------|------------------|----------|
| B-2@1.0'  | 2203996-002A | Soil   | 03/11/2022 11:40 | GC15A 03172226.D | 241453   |

| Analytes                               | Result | RL    | DF | Date Analyzed    |
|----------------------------------------|--------|-------|----|------------------|
| Acifluorfen                            | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Bentazon                               | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Chloramben                             | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| 2,4-D (Dichlorophenoxyacetic acid)     | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| 2,4-DB                                 | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Dalapon                                | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| DCPA (mono & diacid)                   | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Dicamba                                | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| 3,5-Dichlorobenzoic Acid               | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Dichloroprop                           | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Dinoseb (DNBP)                         | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| MCPA                                   | ND     | 5.0   | 5  | 03/18/2022 00:15 |
| MCPP                                   | ND     | 5.0   | 5  | 03/18/2022 00:15 |
| 4-Nitrophenol                          | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Pentachlorophenol (PCP)                | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| Picloram                               | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND     | 0.050 | 5  | 03/18/2022 00:15 |
| 2,4,5-TP (Silvex)                      | ND     | 0.050 | 5  | 03/18/2022 00:15 |

| Surrogates | REC (%) | Limits |                  |
|------------|---------|--------|------------------|
| DCAA       | 91      | 60-140 | 03/18/2022 00:15 |

**Analyst(s):** DP

**Analytical Comments:** a3



## Quality Control Report

**Client:** Enthalpy Analytical  
**Date Prepared:** 03/17/2022  
**Date Analyzed:** 03/17/2022  
**Instrument:** GC15A  
**Matrix:** Soil  
**Project:** EO-459721

**WorkOrder:** 2203996  
**BatchID:** 241453  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-241453

### QC Summary Report for SW8151A

| Analyte                                | MB Result | MDL    | RL    | SPK Val | MB SS %REC | MB SS Limits |
|----------------------------------------|-----------|--------|-------|---------|------------|--------------|
| Acifluorfen                            | ND        | 0.0042 | 0.010 | -       | -          | -            |
| Bentazon                               | ND        | 0.0026 | 0.010 | -       | -          | -            |
| Chloramben                             | ND        | 0.0053 | 0.010 | -       | -          | -            |
| 2,4-D (Dichlorophenoxyacetic acid)     | ND        | 0.0038 | 0.010 | -       | -          | -            |
| 2,4-DB                                 | ND        | 0.0046 | 0.010 | -       | -          | -            |
| Dalapon                                | ND        | 0.0063 | 0.010 | -       | -          | -            |
| DCPA (mono & diacid)                   | ND        | 0.0042 | 0.010 | -       | -          | -            |
| Dicamba                                | ND        | 0.0025 | 0.010 | -       | -          | -            |
| 3,5-Dichlorobenzoic Acid               | ND        | 0.0034 | 0.010 | -       | -          | -            |
| Dichloroprop                           | ND        | 0.0028 | 0.010 | -       | -          | -            |
| Dinoseb (DNBP)                         | ND        | 0.0026 | 0.010 | -       | -          | -            |
| MCPA                                   | ND        | 0.42   | 1.0   | -       | -          | -            |
| MCPP                                   | ND        | 0.33   | 1.0   | -       | -          | -            |
| 4-Nitrophenol                          | ND        | 0.0073 | 0.010 | -       | -          | -            |
| Pentachlorophenol (PCP)                | ND        | 0.0019 | 0.010 | -       | -          | -            |
| Picloram                               | ND        | 0.0037 | 0.010 | -       | -          | -            |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND        | 0.0026 | 0.010 | -       | -          | -            |
| 2,4,5-TP (Silvex)                      | ND        | 0.0020 | 0.010 | -       | -          | -            |
| <b>Surrogate Recovery</b>              |           |        |       |         |            |              |
| DCAA                                   | 0.11      |        |       | 0.1     | 113        | 63-129       |

(Cont.)



## Quality Control Report

**Client:** Enthalpy Analytical  
**Date Prepared:** 03/17/2022  
**Date Analyzed:** 03/17/2022  
**Instrument:** GC15A  
**Matrix:** Soil  
**Project:** EO-459721

**WorkOrder:** 2203996  
**BatchID:** 241453  
**Extraction Method:** SW8151A  
**Analytical Method:** SW8151A  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-241453

### QC Summary Report for SW8151A

| Analyte                                | LCS<br>Result | LCSD<br>Result | SPK<br>Val | LCS<br>%REC | LCSD<br>%REC | LCS/LCSD<br>Limits | RPD   | RPD<br>Limit |
|----------------------------------------|---------------|----------------|------------|-------------|--------------|--------------------|-------|--------------|
| Acifluorfen                            | 0.10          | 0.10           | 0.10       | 101         | 100          | 60-140             | 0.816 | 30           |
| Bentazon                               | 0.10          | 0.10           | 0.10       | 101         | 103          | 60-140             | 2.03  | 30           |
| Chloramben                             | 0.10          | 0.11           | 0.10       | 104         | 107          | 60-140             | 2.01  | 30           |
| 2,4-D (Dichlorophenoxyacetic acid)     | 0.10          | 0.11           | 0.10       | 103         | 106          | 67-147             | 3.11  | 30           |
| 2,4-DB                                 | 0.11          | 0.11           | 0.10       | 105         | 108          | 61-152             | 2.17  | 30           |
| Dalapon                                | 0.10          | 0.10           | 0.10       | 101         | 102          | 54-153             | 0.641 | 30           |
| DCPA (mono & diacid)                   | 0.085         | 0.086          | 0.10       | 85          | 86           | 60-140             | 1.15  | 30           |
| Dicamba                                | 0.098         | 0.10           | 0.10       | 98          | 100          | 60-146             | 2.77  | 30           |
| 3,5-Dichlorobenzoic Acid               | 0.098         | 0.10           | 0.10       | 98          | 101          | 60-140             | 2.60  | 30           |
| Dichloroprop                           | 0.10          | 0.10           | 0.10       | 100         | 104          | 60-140             | 3.57  | 30           |
| Dinoseb (DNBP)                         | 0.091         | 0.092          | 0.10       | 91          | 92           | 60-140             | 1.47  | 30           |
| MCPA                                   | 9.7           | 10             | 10         | 97          | 100          | 60-140             | 2.83  | 30           |
| MCPP                                   | 9.7           | 10             | 10         | 97          | 100          | 60-140             | 2.58  | 30           |
| 4-Nitrophenol                          | 0.12          | 0.12           | 0.10       | 122         | 124          | 60-140             | 1.99  | 30           |
| Pentachlorophenol (PCP)                | 0.092         | 0.094          | 0.10       | 92          | 94           | 60-140             | 2.25  | 30           |
| Picloram                               | 0.094         | 0.094          | 0.10       | 94          | 94           | 60-140             | 0.686 | 30           |
| 2,4,5-T (Trichlorophenoxy acetic acid) | 0.10          | 0.10           | 0.10       | 102         | 104          | 60-140             | 2.39  | 30           |
| 2,4,5-TP (Silvex)                      | 0.098         | 0.10           | 0.10       | 98          | 101          | 63-145             | 2.45  | 30           |
| <b>Surrogate Recovery</b>              |               |                |            |             |              |                    |       |              |
| DCAA                                   | 0.12          | 0.12           | 0.10       | 119         | 122          | 63-129             | 2.90  | 30           |



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 2203996

ClientCode: ENO

☐ WaterTrax

☐ CLIP

☐ EDF

☐ EQUIS

☐ Dry-Weight

☒ Email

☐ HardCopy

☐ ThirdParty

☒ J-flag

☐ Detection Summary

☒ Excel [A1\_w/QC\_noMDL (Hist)]

**Report to:**

Ranjit Clarke  
Enthalpy Analytical  
1108 West Barkley Avenue  
Orange, CA 92868  
(714) 771-6900 FAX:

Email: Ranjit.Clarke@enthalpy.com; incomingrepo  
cc/3rd Party:  
PO: 024757  
Project: EO-459721

**Bill to:**

Accounts Payable/Enthalpy SoCal  
Montrose Environmental Group  
PO Box 842165  
Boston, MA 02284-2165  
003EL\_ap@montrose-env.com

Requested TAT: 5 days;

**Date Received:** 03/16/2022

**Date Logged:** 03/16/2022

| Lab ID      | Client ID | Matrix | Collection Date | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |
|-------------|-----------|--------|-----------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|
|             |           |        |                 |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2203996-001 | B-1@2'    | Soil   | 3/11/2022 07:50 | <input type="checkbox"/> | A                                  | A |   |   |   |   |   |   |   |    |    |    |
| 2203996-002 | B-2@1.0'  | Soil   | 3/11/2022 11:40 | <input type="checkbox"/> | A                                  | A |   |   |   |   |   |   |   |    |    |    |

**Test Legend:**

|   |        |
|---|--------|
| 1 | 8151_S |
| 5 |        |
| 9 |        |

|    |                |
|----|----------------|
| 2  | PRDisposal Fee |
| 6  |                |
| 10 |                |

|    |  |
|----|--|
| 3  |  |
| 7  |  |
| 11 |  |

|    |  |
|----|--|
| 4  |  |
| 8  |  |
| 12 |  |

Prepared by: Tina Perez

**Comments:**

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269  
http://www.mccampbell.com / E-mail: main@mccampbell.com

## WORK ORDER SUMMARY

**Client Name:** ENTHALPY ANALYTICAL

**Client Contact:** Ranjit Clarke

**Contact's Email:** Ranjit.Clarke@enthalpy.com;  
incomingreports@enthalpy.com

**Project:** EO-459721

**Comments:**

**Work Order:** 2203996

**QC Level:** LEVEL 2

**Date Logged:** 3/16/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☒ Excel ☐ EQUIS ☒ Email ☐ HardCopy ☐ ThirdParty ☒ J-flag

| LabID | ClientSampID | Matrix | Test Name                        | Containers<br>/Composites | Bottle &<br>Preservative | U**                      | Head<br>Space            | Dry-<br>Weight           | Collection Date<br>& Time | TAT    | Test Due Date | Sediment<br>Content | Hold                     | Sub<br>Out               |
|-------|--------------|--------|----------------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------|---------------|---------------------|--------------------------|--------------------------|
| 001A  | B-1@2'       | Soil   | SW8151A (Chlorinated Herbicides) | 1                         | 4OZ GJ, Unpres           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3/11/2022 7:50            | 5 days | 3/23/2022     |                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 002A  | B-2@1.0'     | Soil   | SW8151A (Chlorinated Herbicides) | 1                         | 4OZ GJ, Unpres           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3/11/2022 11:40           | 5 days | 3/23/2022     |                     | <input type="checkbox"/> | <input type="checkbox"/> |

**NOTES:** \* STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

U\*\* = An unpreserved container was received for a method that suggests a preservation in order to extend hold time for analysis.



Subcontract Laboratory:

McCampbell Analytical, Inc.  
1534 Willow Pass Rd.  
Pittsburg, CA 94565  
ATTN: Angela Rydelius  
PO #: Required, to be sent via email

Enthalpy Order: EO-459721

PM: Ranjit K Clarke  
Email: Ranjit.Clarke@enthalpy.com  
CC: incomingreports@enthalpy.com  
Phone: (714) 771-9906

Results Due: Standard TAT

Report Level: II

Report To: RL

EDDs: Standard Excel EDD

## Notes:

| Sample ID | Collected         | Lab ID     | # Cont. | Matrix | Analysis Requested               | Comment |
|-----------|-------------------|------------|---------|--------|----------------------------------|---------|
| B-1@2'    | 11-MAR-2022 07:50 | 459721-001 | 1       | Soil   | EPA 8151A Chlorinated Herbicides |         |
| B-2@1.0'  | 11-MAR-2022 11:40 | 459721-002 | 1       | Soil   | EPA 8151A Chlorinated Herbicides |         |

## Notes:

## Relinquished By:

## Received By:

Date: 3/15/22 1830

Date: 3/16/22 @ 1205

Date:

Date:

Date:

Date:

2.2" wet



## Sample Receipt Checklist

Client Name: **Enthalpy Analytical**  
Project: **EO-459721**

Date and Time Received: **3/16/2022 12:05**

Date Logged: **3/16/2022**

Received by: **Tina Perez**

Logged by: **Tina Perez**

WorkOrder No: **2203996** Matrix: Soil  
Carrier: Golden State Overnight

### Chain of Custody (COC) Information

Chain of custody present? Yes ☒ No ☐  
Chain of custody signed when relinquished and received? Yes ☒ No ☐  
Chain of custody agrees with sample labels? Yes ☒ No ☐  
Sample IDs noted by Client on COC? Yes ☒ No ☐  
Date and Time of collection noted by Client on COC? Yes ☒ No ☐  
Sampler's name noted on COC? Yes ☐ No ☒  
COC agrees with Quote? Yes ☐ No ☐ NA ☒

### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes ☒ No ☐ NA ☐  
Custody seals intact on sample bottles? Yes ☒ No ☐ NA ☐  
Shipping container/cooler in good condition? Yes ☒ No ☐  
Samples in proper containers/bottles? Yes ☒ No ☐  
Sample containers intact? Yes ☒ No ☐  
Sufficient sample volume for indicated test? Yes ☒ No ☐

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes ☒ No ☐ NA ☐  
Samples Received on Ice? Yes ☒ No ☐

(Ice Type: WET ICE )

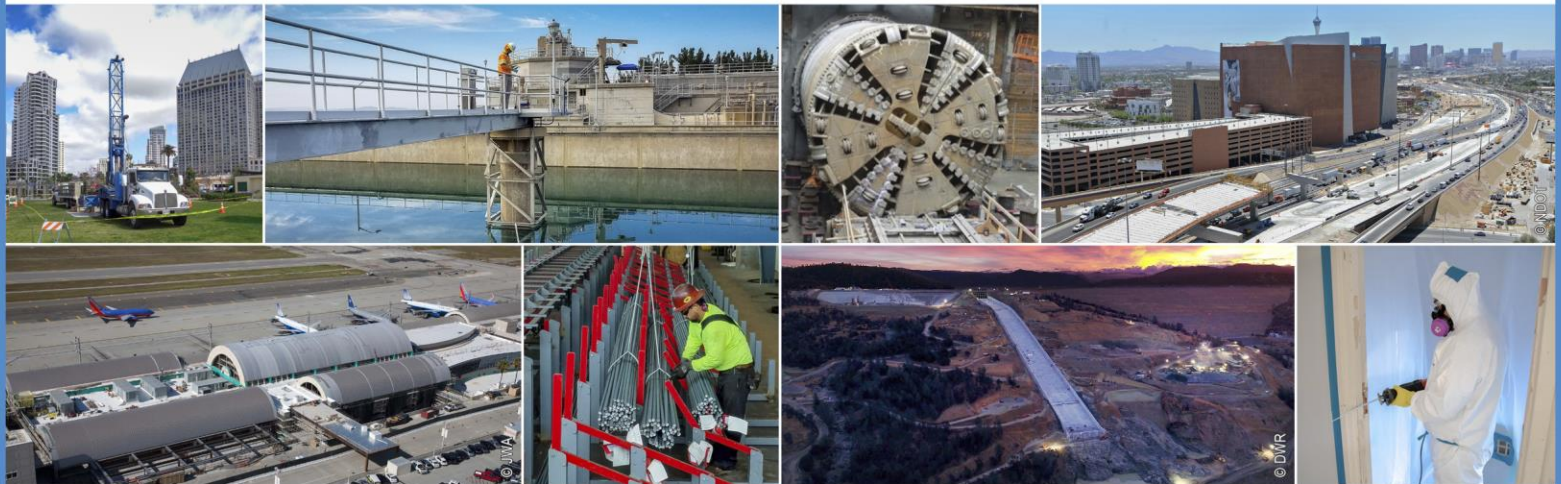
Sample/Temp Blank temperature Temp: 2.2°C NA ☐  
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? Yes ☐ No ☐ NA ☒  
Sample labels checked for correct preservation? Yes ☒ No ☐  
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? Yes ☐ No ☐ NA ☒

### UCMR Samples:

pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)? Yes ☐ No ☐ NA ☒  
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]? Yes ☐ No ☐ NA ☒

Comments:

DRAFT



475 Goddard, Suite 200 | Irvine, California 92618 | p. 949.753.7070

ARIZONA | CALIFORNIA | COLORADO | NEVADA | TEXAS | UTAH

[ninyoandmoore.com](http://ninyoandmoore.com)

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

**APPENDIX E – PALEONTOLOGICAL RECORDS SEARCH THROUGH THE  
NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY**



Natural History Museum  
of Los Angeles County  
900 Exposition Boulevard  
Los Angeles, CA 90007  
tel 213.763.DINO  
www.nhm.org

Research & Collections

e-mail: [paleorecords@nhm.org](mailto:paleorecords@nhm.org)

April 14, 2021

Dudek

Attn: Michael Williams

re: Paleontological resources for the Goleta Sanitary District Project (PN: 12642)

Dear Michael:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Goleta Sanitary District project area as outlined on the portion of the Goleta USGS topographic quadrangle map that you sent to me via e-mail on April 8, 2021. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

| Locality Number                                 | Location                                                                                 | Formation                                                                    | Taxa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Depth   |
|-------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| LACM VP 5018;<br>LACM IP 36, 416,<br>6913, 6919 | Seacliff about 1.5 miles long; south of Isla Vista between Goleta Point & Coal Oil Point | Unknown formation (Pleistocene; conglomerate & sandstone; locally coquinoid) | Fish (Osteichthyes); Invertebrates ( <i>Alia</i> , <i>Axinopsida</i> , <i>Barbarofusus</i> , <i>Caesia</i> , <i>Callianax</i> , <i>Callithaca</i> , <i>Calyptrea</i> , <i>Cancer</i> , <i>Cellaria</i> , <i>Crepidula</i> , <i>Cystiscidae</i> , <i>Decapoda</i> , <i>Glans</i> , <i>Hima</i> , <i>Leukoma</i> , <i>Lirobittium</i> , <i>Lottia</i> , <i>Lucinisca</i> , <i>Mactromeris</i> , <i>Macoma</i> , <i>Miodontiscus</i> , <i>Mitrella</i> , <i>Mytilidae</i> , <i>Nutricula</i> , <i>Ostrea</i> , <i>Paciocinebrina</i> , <i>Penitella</i> , <i>Platyodon</i> , <i>Saxidomas</i> , <i>Solen</i> , <i>Strongylocentrotus</i> , <i>Tellina</i> , <i>Tresus</i> , <i>Urosalpinx</i> ) | Unknown |
| LACM VP 7954                                    | El Capitan State Beach                                                                   | Monterey Formation                                                           | Sperm whale (Physeteridae)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Surface |
| LACM IP 8057                                    | Coast about 1/4 mile east of Goleta Landing                                              | Pleistocene terrace                                                          | Invertebrate ( <i>Cryptonatica</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unknown |

|                           |                                                 |                                                    |                                                                                                    |         |
|---------------------------|-------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------|---------|
| LACM IP<br>8056           | Coast about 1 mile<br>east of Goleta<br>Landing | Unknown formation<br>(Pleistocene<br>conglomerate) | Invertebrates (unspecified)                                                                        | Unknown |
| LACM VP<br>1013           | Victoria St. Sand Pit.<br>Packard's Hill*       | Unknown formation<br>(Miocene)                     | Cormorant ( <i>Phalacrocorax</i> )                                                                 | Unknown |
| LACM VP<br>5610,<br>65174 | Gaviota Beach                                   | Monterey<br>Formation                              | Flounder( <i>Paralichthys</i> ), bony fish<br>(Eclipses, Thyrsole), herring (Xyne<br>grex); plants | Unknown |

*VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface*

*\*Published in Howard, 1931; Condor; 33(1):30-31*

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,



Alyssa Bell, Ph.D.  
Natural History Museum of Los Angeles County

enclosure: invoice

## **APPENDIX F (CONFIDENTIAL) – NATIVE AMERICAN CULTURAL RESOURCES**

Pursuant to Public Resources Code § 21080.3, I (a) and Government Code § 65352.4, the Tribal Cultural Resources Appendix is confidential and is only available to eligible individuals.

## **APPENDIX G – MITIGATION MONITORING AND REPORTING PROGRAM**

Section 21081.6 of the PRC requires public agencies to adopt a Mitigation Monitoring and Reporting Program (MMRP) for changes to the project which it has adopted, or made a condition of project approval, in order to mitigate or avoid significant effects on the environment. An MMRP is required for the proposed Project, because the IS/MND identified potentially significant adverse impacts related to construction activity, and mitigation measures have been identified to mitigate these impacts. Adoption of the MMRP will occur along with approval of the Project.



Mitigated Negative Declaration for Biosolids and Energy Phase 1 Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Method of Verification                                                                                                                                                                                                                           | Timing of Verification |               |             | Responsible Party        | Completed |      | Comments |
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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                  | Pre-Const.             | During Const. | Post-Const. |                          | Initials  | Date |          |
| Biological Resources   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                  |                        |               |             |                          |           |      |          |
| MM-BIO-1               | <p>Pre-construction Nesting Bird Surveys. If Project activities are proposed during the general avian breeding season of January 15 to September 15, the Project biologist shall conduct a pre-construction survey for active nests within 500 feet of the construction area and submit a letter report to the County of Santa Barbara (County) prior to the pre-construction meeting. If active nests are detected, clearing and construction within a minimum of 300 feet shall be postponed until the nest(s) is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. If an active raptor or rare, threatened, endangered, or species of special concern bird nest is found, clearing and construction within a minimum of 500 feet shall be postponed until the nest(s) is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting. The report submitted to the County shall include mitigation measures including, but not limited to, (1) worker environmental awareness training, (2) daily biological monitoring during construction activities, and (3) the locations of flags and/or stakes to provide the appropriate avoidance buffers. If no nesting birds are detected during the pre-construction survey, no mitigation is required.</p> <p>The Project biologist shall continue to perform site surveys during all construction activities to detect any nesting birds that may nest on the Project site after the pre-construction survey. Pre-construction clearance surveys shall be</p> | <p>The results of the pre-construction nesting bird survey will be submitted to the County prior to the pre-construction meeting to document compliance with applicable State and federal laws pertaining to the protection of native birds.</p> | X                      |               |             | Goleta Sanitary District |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Method of Verification                                                                                                                                                                                      | Timing of Verification |               |             | Responsible Party | Completed |      | Comments |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|-------------|-------------------|-----------|------|----------|
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                             | Pre-Const.             | During Const. | Post-Const. |                   | Initials  | Date |          |
|                        | completed, as required, to comply with the federal Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, California Fish and Game Code, and/or County regulations. If the biological monitor determines that Project activities are disturbing or disrupting nesting activities, the monitor will make recommendations to County staff to reduce the noise or disturbance in the vicinity. This may include recommendations such as (1) turning off vehicle engines and other equipment whenever possible to reduce noise, (2) working in other areas until the young have fledged, and (3) stopping work until young are independent of their nests (Development Standard ECO-EGV-2C in County of Santa Barbara 2017).                                                                     |                                                                                                                                                                                                             |                        |               |             |                   |           |      |          |
| MM-BIO-2               | <b>Erosion and Sediment Control Plan (ESCP).</b> Due to the Project impact of less than 1 acre, the Applicant shall prepare an ESCP to minimize the potential for discharge of pollutants during construction activities. The ESCP shall be designed to minimize erosion during construction and shall be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures, or permanent landscaping. The ESCP shall include both structural and non-structural Best Management Practices (BMPs), including straw wattles around storm drains, silt fencing, and/or other physical controls to divert flows from exposed soil, spill prevention methods, and clean housekeeping methods for storing and refueling machinery. The ESCP shall | BMPs inspection regularly and prior to storm events. Maintain BMPs in good condition at all times and monitor the site's stormwater measures, prior to the start of construction, as well as throughout the | X                      | X             |             | Contractor        |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Method of Verification                                                  | Timing of Verification |               |             | Responsible Party | Completed |      | Comments |
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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                         | Pre-Const.             | During Const. | Post-Const. |                   | Initials  | Date |          |
|                        | <p>use BMPs designed to stabilize the site, protect natural watercourses/creeks, prevent erosion, and convey stormwater runoff to existing drainage systems, keeping contaminants and sediments on-site.</p> <p>As part of the ESCP, the contractor shall include specifications, installation requirements, and locations of appropriate BMPs to control sediment, coarse particles, concrete, and other materials exposed during construction. During construction activities, washing of concrete or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Washing will not be allowed in locations where the tainted water could enter storm drains.</p> <p>There is a stormwater conveyance swale located in the grassy field, south of the staging area. A 50-foot buffer is required from this feature. The southern boundary of the staging area will need appropriate BMPs, such as a silt fence, to protect stormwater.</p> | duration of construction, to ensure they continue to function properly. |                        |               |             |                   |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No.    | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Method of Verification                                                                                       | Timing of Verification |               |             | Responsible Party        | Completed |      | Comments |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------|---------------|-------------|--------------------------|-----------|------|----------|
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                              | Pre-Const.             | During Const. | Post-Const. |                          | Initials  | Date |          |
|                           | <p><i>Requirements and Timing</i></p> <p>The ESCP shall be submitted and approved prior to any ground disturbance. A County-approved ESCP is required in order to be issued a Grading Permit. ESCPs shall be developed by a professional knowledgeable in erosion and sediment control. It is recommended that a Certified Professional in Sediment and Erosion Control develop the ESCP. The responsible party shall designate an individual to be responsible for on-site installation, maintenance, and removal of ESCP measures. The ESCP requirements shall be implemented between November 1st and April 15th of each year, except pollution control measures, which shall be implemented year-round.</p>                             |                                                                                                              |                        |               |             |                          |           |      |          |
| <b>Cultural Resources</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                              |                        |               |             |                          |           |      |          |
| MM-CUL-1                  | <p><b>Data Recovery.</b> Based on the determination that, despite efforts to avoid significant intact cultural deposits, the Proposed Project would impact cultural deposits of moderate density, the Project therefore has the potential to adversely affect a unique archeological resource. As such, pursuant to the California Environmental Quality Act (CEQA), data recovery is required to be implemented according to following tasks:</p> <p>A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, shall be retained to develop a data recovery program and research design prior to the data recovery efforts, and they shall make provision for adequately recovering the</p> | Submittal/ review of Data Recovery Research Design and Work Plan and Final Data Recovery Report to District. | X                      |               |             | Goleta Sanitary District |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Method of Verification | Timing of Verification |               |             | Responsible Party | Completed |      | Comments |
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|                        | <p>scientifically consequential information from, and about, the resource; this shall be prepared and adopted prior to any excavation being undertaken (CEQA Guidelines Section 15126.4(b)(3)(A)). As such, the data recovery plan shall include specific levels of effort and methods to obtain a statistically representative sample of significant archaeological deposits, as well as field and laboratory requirements, to ensure proper treatment of all materials, including documentation of results and curation of the archaeological collection. This plan shall be submitted to the District for review prior to implementation. Specifically, the data recovery plan shall, at the least, include the standards, guidelines, and performance criteria to ensure that the data recovery mitigation will be effective in “adequately recovering the scientifically consequential information from and about the historical resource” as stated in CEQA Guidelines Section 15126.4(b)(3)(C). The following are basic criteria, based on the California Office of Historic Preservation (OHP) Guidelines for Archaeological Research Designs (OHP 1991) from which a more detailed and comprehensive data recovery plan shall be formulated:</p> <ul style="list-style-type: none"> <li>➤ Professional Qualifications – The data recovery plan shall be designed by a qualified archaeologist meeting the Secretary of Interior’s Professional Qualifications for archaeology, including at least 2 years documented supervisory experience in the study of prehistoric archaeological resources of the region.</li> </ul> |                        |                        |               |             |                   |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Method of Verification | Timing of Verification |               |             | Responsible Party | Completed |      | Comments |
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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        | Pre-Const.             | During Const. | Post-Const. |                   | Initials  | Date |          |
|                        | <p>➤ Research Design – The research design shall be developed to satisfy the requirement for public benefit that can be derived from the data recovery efforts. The design shall focus research on one or more important hypotheses that have been carefully constructed to address current data gaps, new models, theories, investigative and conservation techniques, as well as priority research areas identified by state or federal agencies (OHP 1991; National Park Service 2020). The design shall have the following requirements for its goals, pursuant to OHP guidelines: focus on important goals; be realistic and attainable; establish efficient methods to accomplish the goals; understandable; provide a thorough and well-organized argument; and concise and flexible.</p> <p>➤ Fieldwork, Laboratory, and Curation Methods – The data recovery field methods shall be designed to recover the entire portion of the cultural resource (sandstone-lined well) that will be impacted as a result of the ground disturbance, plus a statistically significant assemblage of any surrounding resource deposit, sufficient to answer the research questions determined in the data recovery research design, that the site is potentially capable of addressing.</p> <p>➤ Report Elements – The data recovery efforts shall be thoroughly documented in a comprehensive report, including the following core elements: theoretical orientation; cultural context; definition of the formulated</p> |                        |                        |               |             |                   |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Method of Verification                                                                     | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                            | Pre-Const.             | During Const. | Post-Const. |                                      | Initials  | Date |          |
|                        | hypotheses presented in the original research design; all field, laboratory, and curation methods; results of research; and implications of the results, in light of current understanding, and its potential to contribute to future research and understanding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                            |                        |               |             |                                      |           |      |          |
| MM-CUL-2               | <b>Construction Monitoring Treatment Plan.</b> Impacts to cultural resources shall be minimized through implementation of pre- and post-construction tasks. Tasks pertaining to cultural resources include the development of a Construction Monitoring Treatment Plan (Plan). The purpose of the Plan is to outline a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources throughout the duration of the Project. This Plan shall define the process to be followed for the identification and management of cultural resources in the Project area during construction. Existence of, and importance of, adherence to this Plan shall be stated on all Project site plans intended for use by those conducting the ground-disturbing activities. | Submittal/ review of Construction Monitoring Treatment Plan to District.                   | X                      |               |             | Goleta Sanitary District             |           |      |          |
| MM-CUL-3               | <b>Workers Environmental Awareness Program (WEAP) Training.</b> All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of ground disturbing activities. A basic presentation shall be prepared and presented by a qualified archaeologist and Native American representative to inform all personnel working on the Project about the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Submittal/ review of Workers Environmental Awareness Program. (WEAP) Training to District/ | X                      | X             |             | Goleta Sanitary District/ Contractor |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
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| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Method of Verification                                                                                                                                            | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                        | archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of, and legal basis for, the protection of significant archaeological resources. Each worker shall also be instructed on the proper procedures to follow, in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, plus the immediate contact of the archaeological monitor (if no monitor is present, senior archaeologist) and Native American monitor. Necessity of training attendance shall be stated on all Project site plans intended for use by those conducting the ground-disturbing activities. | Contractor ensures all applicable personnel are trained.                                                                                                          |                        |               |             |                                      |           |      |          |
| MM-CUL-4               | <b>Archaeological Monitoring.</b> A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, shall monitor all initial (first movement of soils within each ground disturbance location at complete horizontal and vertical extents) ground disturbances within the Proposed Project site. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for a Principal Investigator, shall oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue spot monitoring frequency), based on the observed potential for construction activities to encounter cultural deposits. The archaeological monitor shall be responsible for maintaining monitoring logs. Following the completion of construction, the                             | Submittal/ review of monitoring logs and final report to District/ Contractor to ensure archaeology monitors are on-site during all ground-disturbing activities. |                        | X             | X           | Goleta Sanitary District/ Contractor |           |      |          |



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| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Method of Verification                                                                                                                                                                                                                | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                        | qualified archaeologist shall provide an archaeological monitoring report to the District and the Central Coast Information Center (CCIC) with the results of the cultural monitoring program.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                       |                        |               |             |                                      |           |      |          |
| MM-CUL-5               | <p><b>Inadvertent Discovery of Archaeological Resources.</b> In the event that archaeological resources (sites, features, or artifacts) are exposed during ground-disturbing activities for the Project, all construction work occurring within 50 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a Tribal representative may be necessary.</p> <p>If a discovery consists of possible human remains, the Santa Barbara County Coroner shall be contacted immediately, as well as the qualified archaeologist and the District. If the Coroner determines that the remains are Native American, the Coroner shall contact the California Native</p> | In event of inadvertent discovery of cultural resources, work shall stop; qualified archaeologist evaluates, Native American representative consulted, and (if the discovery is human remains) Coroner will be immediately contacted. |                        | X             |             | Goleta Sanitary District/ Contractor |           |      |          |

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| Mitigation Measure No.   | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Method of Verification                                                                                                                                                                                                                                         | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                          | American Heritage Commission (NAHC), who will provide the name and contact information for the Most Likely Descendent (MLD). Treatment of the discovery shall be decided in consultation with the MLD, provided by the NAHC. Additionally, a Tribal representative shall be retained to monitor all further subsurface disturbance in the area of the find. In the event of the discovery of human remains, work in the area of discovery may only proceed after the District grants authorization.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |                        |               |             |                                      |           |      |          |
| <b>Geology and Soils</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                |                        |               |             |                                      |           |      |          |
| MM-GEO-1                 | <b>Paleontological Resources Impact Mitigation Program and Paleontological Monitoring.</b> Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist, per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Proposed Project. The PRIMP shall be consistent with the SVP (2010) guidelines and outline requirements for pre-construction meeting attendance and worker environmental awareness training, where paleontological monitoring is required within the Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting, and a | Submittal/ review of PRIMP, monitoring logs, and final report to District/ Contractor to ensure paleontology monitors are present for WEAP training and on-site during initial grading depth of 5 feet below the ground surface in areas underlain by Holocene | X                      | X             | X           | Goleta Sanitary District/ Contractor |           |      |          |

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| Mitigation Measure No.           | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Method of Verification                                                                                                                                                | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                                  | qualified paleontological monitor shall be on-site during initial rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, early Pleistocene to late Pliocene unnamed marine sedimentary units and Monterey Formation deposits. The qualified paleontological monitor shall also be on-site during initial grading below a depth of 5 feet of the ground surface, in areas underlain by Holocene estuarine deposits, to determine if they are old enough to preserve scientifically significant paleontological resources. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find. | estuarine deposits.                                                                                                                                                   |                        |               |             |                                      |           |      |          |
| <b>Tribal Cultural Resources</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                       |                        |               |             |                                      |           |      |          |
| MM-TCR-1                         | <b>Workers Environmental Awareness Program.</b> All interested tribes that requested and participated in formal Assembly Bill (AB) 52 consultation (referred to as “interested Tribe”), shall be notified by the GSD of the time and location of the WEAP training no later than 72 hours prior to its scheduled occurrence. GSD shall provide all interested consulting tribes access and opportunity to participate in the WEAP training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | District to notify all interested tribes that requested and participated in formal AB 52 consultation of the time and location of the WEAP training, no later than 72 | X                      | X             |             | Goleta Sanitary District/ Contractor |           |      |          |

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| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Method of Verification                                                                                                                                                                                                                                                      | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | hours prior to its scheduled occurrence; Contractor to ensure Native American representative is present for WEAP training.                                                                                                                                                  |                        |               |             |                                      |           |      |          |
| MM-TCR-2               | <b>Retention of a Native American Monitoring.</b> Prior to any ground disturbance activities, GSD shall contact any interested Tribes, with notification of the commencement of ground-disturbing activities, including archaeological excavations. The applicant shall make arrangements with the interested Tribe(s), to enter into a Native American Monitoring Agreement with the intent of securing a total of one Native American monitor to be present during initial ground disturbance, occurring from 1 foot above native soils and below. Initial ground disturbance is defined as initial construction-related earthmoving of sediments from their place of deposition; this includes archaeological investigations. As it pertains to cultural resource (archaeological or Native American) monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by current Project-related construction. The need for cultural resource monitoring (archaeological and Native American) will be determined by a qualified archaeological principal investigator, meeting the Secretary of the Interior's Professional Qualification Standards for a Principal Investigator, | District to notify all interested tribes of the start of ground-disturbing activities, including archaeology excavations, and to enter Native American Monitoring Agreement; Contractor to ensure archaeology monitors are on-site during all ground-disturbing activities. | X                      | X             |             | Goleta Sanitary District/ Contractor |           |      |          |

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| Mitigation Measure No. | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Method of Verification | Timing of Verification |               |             | Responsible Party | Completed |      | Comments |
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|                        | in consultation with interested tribes who shall oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency), based on the observed potential for construction activities to encounter cultural deposits or material. More than one monitor may be required if multiple areas within the Project site are simultaneously exposed to initial ground disturbance, as previously defined in these mitigation measures, causing monitoring to be hindered by the distance of the simultaneous activities. The need for an additional monitor shall be made by the qualified archaeological principal investigator, meeting the Secretary of the Interior's Professional Qualification Standards, in consultation with interested tribes. The Native American monitoring agreement(s) shall include, but not be limited to, outlining provisions and requirements for establishing on-site Native American monitoring for professional tribal monitors during initial ground disturbance, as defined above. If multiple interested tribes request to be present during initial ground-disturbing activities, each interested Tribe will be provided access to the Project site when initial ground-disturbing activities are occurring and with a 48-hour notice. However, one interested Tribe at a time will be monetarily compensated for monitoring. If more than one interested Tribe would like to be retained for monetary compensation, a schedule will be created to equally share the Native American monitoring duties. |                        |                        |               |             |                   |           |      |          |

Mitigated Negative Declaration for Solids Handling Improvement Project  
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| MM-TCR-3 | <p><b>Inadvertent Discovery of Tribal Cultural Resources.</b> In the event that tribal cultural resources (TCRs) (sites, features, or artifacts) are exposed during ground-disturbing activities for the Project, all construction work occurring within 50 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards, can evaluate the significance of the find, in consultation with interested Tribe(s) as appropriate, and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a Tribal representative may be necessary. If a discovery consists of possible human remains, the Santa Barbara County Coroner shall be contacted immediately as well as the qualified archaeological Principal Investigator and GSD. If the Coroner determines that the remains are Native American, the Coroner shall contact the NAHC, who will provide the name and contact information for the MLD. Treatment of the discovery shall be decided in consultation with the MLD provided by the NAHC. Additionally, a Tribal representative shall be retained to monitor all further subsurface disturbance in the area of the find. In the event of the discovery of human remains, work in the area of discovery may only proceed after GSD grants authorization.</p> | <p>In event of inadvertent discovery of TCRs, work shall stop; Native American representative will be consulted; and (if the discovery is human remains) Coroner will be immediately contacted.</p> |  | X |  | Goleta Sanitary District/ Contractor |  |  |  |
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Mitigated Negative Declaration for Solids Handling Improvement Project  
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| Mitigation Measure No.        | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Method of Verification                                                                                        | Timing of Verification |               |             | Responsible Party                    | Completed |      | Comments |
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| Utilities and Service Systems |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                               |                        |               |             |                                      |           |      |          |
| MM-UTIL-1                     | Solid Waste Diversion from Landfill: GSD will ensure that the construction contractor does not dispose of greater than 350 tons of solid waste in any California landfill. The contractor may exceed 350 tons only if they receive written permission from a landfill (for example if the landfill wants soils for barrier layers), or if they complete a solid waste mitigation plan which is approved by the Santa Barbara County Public Works Department (or another regional agency if authorized to do so). Since this is a requirement on the construction contractor, GSD will enforce this through a contract mechanism or other legally binding requirement. | District will enforce through a contract mechanism or other legally binding requirement. (California Edison.) | X                      | X             |             | Goleta Sanitary District/ Contractor |           |      |          |

Notes:

Const. = construction.

Mitigated Negative Declaration for Biosolids and Energy Phase 1 Project  
Goleta Sanitary District – Mitigation Monitoring and Reporting Program

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