Site Mitigation Plan

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1 INTRODUCTION

On behalf of the Reservoir Community Partners LLC (Clients and Owners), SCS Engineers (SCS) presents this Site Mitigation Plan (SMP) for the proposed Balboa Reservoir (Site) development, located northwest of the intersection of Ocean Avenue and Phelan Avenue, in San Francisco, California (***Figure 1***). The Site does not have a specific address, and only recently has been listed as Assessor's Parcel Number (APN) 22-3180-005-01. As shown on ***Figure 2***, the approximately 17-acre Site currently has no public street frontages, although access routes are planned from Ocean Avenue to the south via Brighton Avenue, Lee Avenue, and Phelan Avenue from the east.

Nearby businesses and notable features include the City College of San Francisco (CCSF) San Francisco Campus located immediately east, San Francisco Fire Department (SFFD) Station 15 to the southeast, restaurants, coffee shops, a Whole Foods Market, apartments and commercial businesses to the south along Ocean Avenue, the Ingleside Public Library to the southwest, the Wildwood Residential development to the west, and Archbishop Riordan High School to the north.

This SMP has been prepared to satisfy applicable federal, state, and local criteria. This SMP addresses soil, and as appropriate, groundwater management practices and procedures to be employed to mitigate potential environmental or health and safety risks to protect construction workers, the public and the environment due to the presence of generally low levels of contaminated materials in Site soils. This SMP also provides guidelines for contractors to prepare Site-specific documents for health and safety measures to be employed during development activities to protect construction workers, the public and the environment.

SCS has therefore prepared this SMP to address soil, and as appropriate, groundwater management practices and procedures to be employed during the construction activities associated with the proposed Site development, which will include earth-moving activities and groundwater dewatering. The purpose of this SMP is to provide measures to mitigate potential long-term environmental or health and safety risks (if any) to protect construction workers, nearby residents, workers, and/or pedestrians. This SMP also contains contingency plans to be implemented during soil excavation if unanticipated hazardous materials are encountered.

2 PROJECT DESCRIPTION AND PURPOSE

The current Project plan entails grading to create a buildable surface, consisting of cutting (see Figures 3 and 4), followed by the construction of 1,100 units of affordable and market rate housing and 4.2 acres of parks and open space and mixed-use retail space Site preparation will raise grade in the central portion of the Site by several feet, using the Site perimeter embankment material (approximately 71,000 cubic yards or cy) as a fill source along with clean off-Site fill source material (approximately 177,000 cy).

SCS has therefore prepared this SMP to address soil, and as appropriate, groundwater management practices and procedures to be employed during the construction activities associated with the proposed Site development, which will include earth-moving activities and groundwater dewatering. The purpose of this SMP is to provide measures to mitigate potential long-term environmental or health and safety risks (if any) to protect construction workers, nearby residents, workers, and/or pedestrians. This SMP also contains contingency plans to be implemented during soil excavation if unanticipated hazardous materials are encountered.

3 SITE HISTORY

Originally constructed in 1957 by the San Francisco Water Department (now SFPUC), Balboa Reservoir has never been used for its original purpose of water storage. The Site has been used as a parking lot for the adjacent San Francisco CCSF. The Site was part of a series of land transfers completed in 2011 and 2012 conducted as a results of the Balboa Park Station Area Plan (Balboa Park Plan, SFPD, 2008), adopted in 2009 to allow development of certain City properties.

Balboa Reservoir is a large concrete basin which was graded to serve as a water reservoir. The configuration of Balboa Reservoir has changed over time. It originally consisted of two reservoirs (north and south) with surrounding berms and a central dividing berm. However, the eastern portion of both reservoirs was later filled, the central berm removed, and a paved parking lot constructed in the bottom of the joined reservoirs. CCSF students currently use the reservoir for parking. There is existing development on all four sides of Balboa Reservoir.

The area around Balboa Reservoir is currently served by a well-developed water distribution network operated by the City Distribution Division that has the capacity to provide potable and fire-protection water to Balboa Reservoir. To the north is Archbishop Riordan High School. Directly west of Balboa Reservoir on the other side of a large berm is the Westwood Park neighborhood of around 600 homes that was built in the 1920s and 1930s. The neighborhood is characterized by its oval shape and curving streets. Most of the houses in this neighborhood and others bordering Balboa Reservoir are single-family homes.

The southern boundary of Balboa Reservoir borders the Ocean Avenue Neighborhood Commercial Transit District. Mixed-use residential-retail developments have been added recently on the land between the southern boundary of Balboa Reservoir and Ocean Avenue. These mixed-use residential developments include the 1100 Ocean Avenue and 1150 Ocean Avenue developments.

SFPUC transferred ownership of a 6.21-acre parcel in the northeastern corner of Balboa Reservoir to CCSF on May 17, 2012. In exchange, CCSF transferred ownership of a 6.60-acre parcel at the southwestern corner of Balboa Reservoir to SFPUC. The new configuration allowed CCSF to expand its campus, while the western portion of Balboa Reservoir remained suitable for future development.

As part of the associated transfer agreement, CCSF granted the City a 60-foot access easement running east-west on the northern boundary of the CCSF parcel. This easement allows SFPUC to construct a 60-foot-wide right-of-way to Phelan Avenue. Also in accordance with the agreement, SFPUC granted CCSF a 50-foot access easement running north-south, to be built along the eastern edge of the SFPUC property. The access way, also known as the Lee Avenue Extension, allows for pedestrian and vehicular access. The transfer agreement ultimately calls for CCSF to connect the access way to Lee Avenue.

CCSF and SFPUC have reached several other agreements with respect to easements and encroachments, and two high-pressure underground pipelines maintained by SFPUC that deliver water across San Francisco. The pipelines run east-west through the southern portion of Balboa Reservoir in SFPUC-owned land. In the southwest corner of Balboa Reservoir between 1150 Ocean Avenue and the Ingleside Branch Library, SFPUC owns a narrow parcel that also serves as a loading turnaround for the 1150 Ocean Avenue loading dock.

4 SITE SETTING AND SUBSURFACE CONDITIONS

The Site is located approximately 2.9 miles west of the Pacific Ocean and 3.5 miles west-northwest of the edge of San Francisco Bay. Lake Merced is located approximately 1.75 miles to the west. There are currently no natural surface water bodies or streams identified in the Balboa Park Station Area.

Geologic information for the Site and vicinity are provided in the document titled Geologic Map of the San Francisco North Quadrangle, San Francisco and Marin Counties, California dated 1974 by Julius Schlocker, U.S. Geological Survey (USGS) Professional Paper 782. The Site vicinity is characterized by early or middle Pleistocene undifferentiated alluvial deposits. moderately to deeply dissected alluvial deposits capped by alfisols, ultisols, or soils containing a silicic or calcic hardpan. The Site is mapped as within the Colma Formation containing friable, well-sorted, fine- to medium-grained sand with few interbeds of silt, clay and gravel (SFPD, 2008; Bonilla, 1971; Schlocker, 1974).

Rockridge Geotechnical Inc. (Rockridge, 2018) performed a geotechnical investigation at the Site and reported that the non-embankment portion of the Site is underlain by the Colma Formation consisting of medium dense to very dense silty sand with occasional clay interbeds extending to at least 46 feet bgs. Rockridge also reported that the berm or embankment surrounding the Site was composed of sand fill, presumably from on-Site soils excavated from the interior of the Site and re-worked to form the embankment. Rockridge reported the fill to be well-compacted and generally dense to very dense.

The Rockridge investigation did not encounter free groundwater, and cited a 2010 geotechnical investigation performed by Fugro, Inc for a development on Phelan Loop immediately southeast of the Site which reportedly encountered groundwater in one boring at a depth of about 22 feet bgs but not in a second boring drilled to 40 feet bgs.

Liquefaction susceptibility is very low. A geotechnical study conducted at the property immediately south of the Site reported one to seven feet of silty sand fill material, underlain by native medium dense clayey sand, underlain by silty, well-graded dense sand (SFPD, 2008).

Surface water flow to the Bay from the City, including the Balboa Park Station Area, has been almost entirely diverted to the City's combined sewer and storm water system, which collects and transports both sanitary sewage and storm water runoff in the same set of pipes.

The Site is in the Regional San Francisco Bay Westside (2-35) Groundwater Basin, whose primary aquifer is the Islais Formation. Beneficial uses of groundwater are identified as Municipal and Domestic Supply (MUN), Agricultural (AGR), Industrial (IND), and Industrial Process Supply (PROC) (see DWR, 2003). Shallow groundwater in the Basin is not currently used as a source for domestic drinking water.

Based upon data from nearby fuel release cases, the depth to groundwater ranges from approximately 12 to over 40 feet below ground surface bgs, and flows predominantly toward the south, with variable flow to the west and southeast.

Precipitation mostly occurs from November to April, and average annual precipitation in the area is reported as approximately 22 inches.

5 ENVIRONMENTAL HISTORY

The following environmental investigations have been performed at the Site, details of which are included, as necessary:

- AECOM, 2014, *Balboa Reservoir Study, Task 1: Planning Context,* December 19.
- SCS, 2018, Phase I Environmental Site Assessment, Balboa Reservoir, 11 Phelan Avenue, San Francisco, California, for BRIDGE Inc., February 8.
- SCS, 2019, Summary Report, Limited Phase II Site Investigation, Balboa Reservoir, 11 Phelan Avenue, San Francisco, California (APN – 22-3180-005-01), March 27.

5.1 SAMPLE COLLECTION AND ANALYTICAL RESULTS

Based upon the findings of our Phase I ESA and upon review of San Francisco Department of Public Health (SFDPH) Maher Ordinance requirements, SCS conducted a Limited Phase II Investigation (Investigation) at the Site. Our work included collecting and chemically analyzing soil and soil vapor samples from locations shown on ***Figure 2***. The work included six shallow soil borings (P-1 through P-6) and eleven shallow soil vapor probes (PV-1 through PV-11). The methods for and results of the Investigation are presented below:

5.1.1 Soil Vapor Investigation

On August 17, 2018, Transglobal Environmental Geochemistry (TEG) of Rancho Cordova, California, a C-57 licensed drilling contractor performed a limited soil vapor survey under the direction of SCS. The soil vapor survey included installing and sampling 11 temporary on-Site soil vapor probes. The soil vapor probe construction and soil vapor sample collection procedures generally followed the July 2015 Advisory – Active Soil Gas Investigations published by the California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB).

TEG installed the soil vapor probes using a truck mounted direct-push rig to hydraulically advance 0.5-inch diameter steel geo rods equipped with detachable drive points. Once the drive point reached the target sample depth of five feet bgs, TEG installed a ceramic filter attached to Nylaflow tubing through the top of the geo rod to the total depth of the boring. TEG then removed the geo rod and placed a hydrated bentonite seal around the tubing exiting the borehole at ground surface to prevent ambient air from entering the sample system.

TEG placed a shroud over each probe location prior to sample collection and expelled a tracer gas (1,1-difluoroethane or DFA) within the shroud and over each sampling system. Detection of the tracer gas in any of the soil vapor samples would indicate possible leakage of surface air into the soil vapor sample thus rendering the analytical results for that sample suspect. TEG then collected soil vapor samples from each soil vapor probe using a calibrated laboratory grade syringe connected to a Luer Lock sampling port at the top end of the tubing. The TEG mobile laboratory technician collected and logged the soil vapor samples onto a chain of custody (COC) form and assigned an individual laboratory identification number.

Once collected, the TEG technician analyzed each soil vapor sample using their mobile laboratory for volatile organic compounds (VOCs) including naphthalene, and total petroleum hydrocarbons as

gasoline (TPHg) using Environmental Protection Agency (EPA) Method 8260B. TEG also analyzed each sample for fixed gases (oxygen, carbon dioxide, and methane), and 1,1-DFA.

Following completion of vapor sampling, TEG removed each probe and filled each borehole with bentonite grout, and cold patch asphalt as appropriate to the match existing ground surface material. TEG cleaned all non-dedicated sampling equipment prior to use and between probe locations using a laboratory grade detergent wash and clean water rinse.

5.1.2 Soil Investigation

At the conclusion of the soil vapor sampling work, and under the direction of SCS, TEG advanced six direct-push soil borings (P-1 through P-6, ***Figure 2***), each to ten feet bgs. TEG used a direct-push sampling rig to advance hollow steel drive rods at each boring location. Rods were lined with clear acetate sleeves to allow for collecting continuous cores of soil from each boring. The SCS field staff examined the encountered soils using the Unified Soil Classification System (USCS), and recorded soil descriptions along with other notable sample features, such as field observations of staining, odors, photoionization detector (PID) readings, etc., on field boring logs. TEG collected soils in clean acetate sleeves, and SCS collected samples at five depth intervals from each boring. SCS capped each sample with Teflon™ sheets and end caps, labeled and placed each sample into an ice-chilled cooler for transport to McCampbell Analytical Laboratory (McCampbell) under COC protocol. After advancing each soil boring to total depth, TEG decommissioned each boring by backfilling with the surplus soil and grout to ground surface.

SCS used the encountered soil types and soil characteristics (PID readings, odors, staining, etc.) as a means to select soil samples for chemical analysis. SCS requested that McCampbell prepare five composite soil samples, including the 0.75- and 2.5-foot samples from borings P-1, P-2, P-3, and P-4, and the 9.5-foot sample from boring P-5 combined with the 0.75- and 5.0-foot samples from boring P-6. Composite soil samples were analyzed for the following:

- Petroleum hydrocarbon range (gas, diesel, and motor oil) by EPA Method 8015 modified (diesel and motor oil after first using a silica gel cleanup);
- VOCs by EPA Method 8260B;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270;
- Organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) by EPA Methods 8081 and 8082;
- California Administrative Manual (CAM) 17 metals;
- Total cyanide by EPA Method SM4500-CN^- CE;
- Total hexavalent chromium by EPA Method 7199; and,
- Soluble lead (by the Waste Extraction Test or WET method).

We requested the sample analytical suite in accordance with the Maher Ordinance requirements. Soluble lead and hexavalent chromium analysis support soil disposal characterization to assist with soils disposal options if determined necessary. SCS did not request analysis of asbestos due to the location of the Site in an area typified by alluvial soils, and based upon the lack of fill placement at the Site. Upon receipt of the initial composite soil sample analytical results. SCS also directed McCampbell to analyze discrete soil samples from probes P-3, P-5 and P-6 as follows:

- Discrete samples from borings P-3 (0.75 feet and 2.5-feet), P-5 (9.5-feet), and P-6 (0.75- and 5.0-feet) for total hexavalent chromium; and,
- Discrete samples from borings P-5 (9.5-feet) and P-6 (0.75- and 5.0-feet) for analysis of VOCs.

5.1.3 Analytical Results

Soil Vapor

Table 1 presents the results of the soil vapor sample analysis. None of the eleven soil vapor samples collected and analyzed by TEG in their on-Site mobile laboratory yielded TPHg at or above the corresponding reporting limits (RLs). The sole VOC analyte detected was benzene reported in the sample from only one location (PV-5) at 52 micrograms per cubic meter (µg/m^3), in excess of the recently revised Environmental Screening Level (ESL) value of 3.2 micrograms per cubic meter (µg/m^3) for residential land use (RWQCB, 2019).

Neither methane, nor the leak check compound 1,1-DFA were detected at or above the corresponding laboratory reporting limits (RLs) in any of the 11 analyzed soil vapor samples. Oxygen was detected at concentrations of 11 to 21% and carbon dioxide was detected in four samples at concentrations ranging from 5.4 to 11%.

Due to the lack of leak check compound (1,1-DFA) detected in the analyzed vapor samples, SCS believes the collected samples were valid and not compromised by a sample train leak.

Soil Samples

Composite Soil Samples

Table 2 presents the results of the composite soil sample analysis. The composite samples did not yield TPHg, SVOCs, PCBs, or cyanide at or above corresponding RLs. The samples yielded the following analytes:

- TPHd and TPHmo were reported in four of the analyzed samples at respective concentration ranges of 1.1 to 4.0 milligrams per kilogram (mg/kg) and 20 to 110 mg/kg, all well below applicable ESL values for residential or commercial land use;
- The sample from location P-1 yielded Dichlorodiphenyltrichloroethane (DDT) at 0.0003 mg/kg, below the corresponding ESL value (0.00059 mg/kg) for residential land use;
- The composite sample from combined locations P-5 and P-6 yielded tetrachloroethylene (PCE) and vinyl chloride at respective concentrations of 0.00042 mg/kg and 0.0003 mg/kg, below corresponding residential land use ESL values of 0.6 mg/kg and 0.0082 mg/kg. It should be noted that the vinyl chloride result was flagged by the laboratory due to the presence of vinyl chloride in the associated laboratory method blank;
- Select CAM 17 metals were detected, and with the exception of arsenic, none of the CAM 17 metals were reported above corresponding ESL values for residential land use. The detected arsenic concentrations ranged from 1.5 to 3.2 mg/kg, above corresponding residential and commercial land use ESL values (0.067 and 0.31 mg/kg), but well within values considered to

be representative of background concentrations (range of 0.61 to 11 mg/kg) for alluvial soils in the San Francisco Bay Area (Duvergé, 2011); and,

- Hexavalent chromium was detected above the RL in two composite soil samples (locations P-3 and P-5/P-6) at respective concentrations of 0.35 and 0.31 mg/kg, slightly above the residential land use ESL value of 0.3 mg/kg, but below the corresponding ESL for a construction worker (2.8 mg/kg). Locations P-1 and P-2 also yielded estimated or J-flagged hexavalent chromium detections but all concentrations were below the laboratory RL and below the residential land use ESL value.

None of the analyzed soil samples yielded total cyanide or soluble lead at or above the corresponding RL values of 0.1 mg/kg and 0.1 milligrams per liter (mg/L). None of the analyzed soil samples yielded analytes at or above ten times the soluble threshold limit concentration (STLC) value or the total threshold limit concentration (TTLC) value governing soils disposal in California.

Discrete Soil Samples

The subsequent analysis of discrete soil samples was performed slightly beyond the applicable holding times for hexavalent chromium and VOCs. However, SCS requested the analysis to facilitate our evaluation of the role of sample depth in composite sample analytical results.

As shown on ***Table 2***, VOCs were not reported at or above RLs in the analyzed discrete soil samples. Hexavalent chromium concentrations decreased with depth bgs. Samples P-3 at 0.75 and 2.5 feet yielded hexavalent chromium at 0.22 mg/kg and 0.17 mg/kg (estimated or J-flagged value). Samples P-5 at 9.5 feet, and P-6 at 0.75 feet and 5.0 feet yielded hexavalent chromium at 0.28, 0.55, and 0.34 mg/kg, two of which exceeded the residential ESL value of 0.30 mg/kg and none of which exceeded the construction worker ESL value of 2.8 mg/kg and commercial ESL of 6.2 mg/kg.

6 ENVIRONMENTAL INVESTIGATION SUMMARY

The Site Investigation did not identify the presence of significant residual chemicals in Site soil vapor. Benzene was detected in one soil vapor probe location (PV-5) in the immediate vicinity of a trailer used to store motorcycles used for training at a concentration of 52 µg/m^3, in excess of the recently revised residential land use ESL value. The oxygen concentration in sample PV-5 was 20%. The project development will place approximately five feet of clean fill soil over the current groundsurface in the PV-5 location. This will result in a bio-attenuation zone which reduces the potential for benzene or other petroleum-based constituents to migrate into structures. In the presence of a bio-attenuation zone, the State Water Resources Control Board (SWRCB) Low Threat Closure Policy (LTCP) for petroleum release cases (SWRCB, 2012) allows up to 85,000 µg/m3 benzene in similar situations, and therefore SCS does not believe the detected benzene concentration in soil vapor warrants mitigation.

The absence of benzene in any of the other ten (10) soil vapor samples collected, the lack of other VOCs, including petroleum constituents (TPHg, ethylbenzene, toluene, xylenes or naphthalene), in the soil vapor samples and the absence of VOCs at or above RLs in any of the discrete soil samples analyzed, including P-5, suggests a very limited, localized residual impact.

Arsenic was detected in each composite soil sample at concentrations ranging from 1.5 to 3.2 mg/kg, above the residential land use ESL value, but well within the range considered to represent background conditions for alluvial soils in the San Francisco Bay Area (Duvergé, 2011).

Hexavalent chromium was detected in composite soil samples at concentrations slightly above a residential land use ESL value in two locations including the berm borings P-5 and P-6, and from location P-3 located at the southeastern edge of the lower lying portion of the Site. The total chromium values reported for these same locations were not elevated. SCS then requested analysis of discrete soil samples from locations P-3, P-5 and P-6 for hexavalent chromium, and from P-5 and P-6 for VOCs. Although slightly beyond recommended hold times, the sample analysis indicated hexavalent chromium concentrations decrease with depth below ground surface. Although the hexavalent chromium concentrations in the discrete soil samples slightly exceeded residential ESL values at three locations, the values were below the ESL value used for construction worker protection.

This soils evaluation identified the limited presence of low levels of select constituents such as DDT, PCE, vinyl chloride, TPHd, TPHmo, and metals, all below corresponding residential land use ESL values.

The proposed high-density residential development project consists of three primary elements:

- Multiple story residential buildings;
- Paved parking and hardscaped walkways; and,
- Community-accessible parks and gardens.

Although slightly in excess of residential ESL values in limited locations, SCS does not consider the presence of hexavalent chromium concentrations in shallow Site soils a risk to future Site occupants. First, hexavalent chromium is a transient form of chromium which converts to the more stable trivalent chromium in the presence of oxygen. Thus, those soils containing hexavalent chromium at concentrations already very close to the residential ESL value are expected to be rendered inert when exposed to ambient conditions.

Site soils containing the limited suite of constituents noted above pose a low potential health risk that can be properly addressed as part of development activities.

7 CONSTRUCTION ACTIVITIES

NOTIFICATIONS

The General Contractor (GC) will notify SCS a minimum of five (5) business days prior to conducting ground surface intrusive Site work, including any soil handling activities. During work, the GC will notify SCS, and SCS will notify the SFDPH of dust or odor complaints from nearby businesses, residents, or passersby, if any. The GC will inform SCS if unexpected conditions or features are observed during Site work, that suggest the potential presence of petroleum or hazardous materials in soil or groundwater at the Site, in areas or quantities considered significant.

8 ENVIRONMENTAL MITIGATION MEASURES

The results of environmental investigation at the Site indicated limited soils on-Site have low levels of DDT, PCE, vinyl chloride, TPHd, TPHmo, and/or metals. With the exception of arsenic, all constituents have been detected below corresponding residential land use ESL values, and hexavalent chromium in some cases, slightly above residential land use ESL values but below the construction work ESL value. While above residential land use ESL values, the detected arsenic

concentrations are within background range for soils in the San Francisco Bay area and are not considered to require any further assessment or mitigation.

None of the analyte concentrations approached soil disposal threshold values. However, we recommend testing material planned for off-Site transport and disposal to confirm an appropriate disposal location confirm disposal facility approval. The analytical suite would be identified by the intended disposal facility.

The procedures outlined in this SMP are designed to meet SFDPH and Maher Ordinance requirements relating to potentially impacted soil impacts at the Site. In addition, the procedures in this SMP are intended to allow compliance with applicable federal, state, and local laws and regulations, applicable to earthwork activities at the Site. Before intrusive earthwork begins at the Site, an on-Site, pre-field meeting will be conducted between SCS and the GC to review the prior sampling locations and results, discuss Site-specific health and safety concerns, and conditions likely indicative of chemically impacted soils.

8.1 OVERVIEW

The proposed construction activities for the Site are anticipated to disturb soils (e.g. grading, new foundation work, utility installation, etc). At this time, the proposed foundation systems will consists of spread foundations. During all soil handling activities involving the foundation elements, dust control measures will be implemented to reduce the potential for fugitive dust production. The GC and contractors will be responsible for establishing and maintaining proper health and safety procedures to minimize the potential for worker and public exposure to impacted materials during construction of the foundations.

Subsequent to the construction of the proposed Site structures, contaminant exposure risks will be limited to shallow subsurface soil. Persons who could come in contact with contaminated soil will be protected by institutional controls that will be developed and implemented.

Mitigation measures will consist of handling soils safely during construction activities and providing a clean layer of cover soil or other surfacing (hardscape, landscape, etc.) to prevent future exposure to contaminants once the redevelopment activity has been completed. Mitigation measures include the following:

- Site soils to be cut and used for fill at other on-Site locations will be located below hardscape (buildings and pavement) and will therefore not be accessible to residents;
- Those areas not covered by hardscape (gardens or landscaped areas) will be covered with a minimum of three feet of documented clean imported fill;
- If on-Site soil is used in areas not covered by hardscape, the soil will be tested for the complete suite of analytes specified in the Maher Ordinance; and,
- Although current Site development plans call for a net import of approximately 106,000 cubic yards (cy) and do not call for off-Site export of soils, in the event that soil export is necessary, waste materials will be properly profiled, classified and disposed of according to current laws and regulations.

8.2 HEALTH AND SAFETY MEASURES

Construction workers performing excavation and soil handling activities may encounter soil material with previously detected concentrations of low levels of pesticides, petroleum hydrocarbons and

select metals. With the exception of hexavalent chromium and arsenic, none of the compounds exceeded residential, commercial/industrial, and/or construction worker direct exposure ESLs. Hexavalent chromium was found at levels slightly above residential ESL values in some locations, but not above construction worker ESL values. While above residential land use ESL values, the detected arsenic concentrations are within background range for soils in the San Francisco Bay area and are not considered to require any further assessment or mitigation. Based upon the Site setting, SCS does not expect asbestos-containing serpentenite to be present.

Based on the previously identified Site contaminants, the primary exposure pathways of concern are inhalation of dust from the subsurface, ingestion of soil particles, and dermal contact during excavation and soil handling activities. Worker notification and other risk management procedures will be implemented by the GC and/or their contractors to reduce potential human exposures during construction activities. The GC will be responsible for establishing and maintaining proper health and safety procedures to minimize worker and public exposure to Site contaminants during construction.

8.3 HEALTH AND SAFETY OF PERSONNEL

Potential health risk to on-Site construction workers and the public will be addressed by developing and implementing a health and safety program. The GC will be responsible for establishing and maintaining proper health and safety procedures to minimize worker and public exposure to Site contaminants during construction. It is the GC's responsibility to communicate the Site information, including this Revised SMP, to its subcontractors. As part of its health and safety program, the GC will prepare a Site-specific Health and Safety Plan (HASP) and identify a Health and Safety Officer (HASO), as outlined in the subsections, below.

8.4 HEALTH AND SAFETY ISSUES

On the basis of our experience on similar properties, there are limited potential health and safety risks associated with the metals and petroleum hydrocarbons detected at the Site for construction workers, nearby residents and/or pedestrians, and future users of the Site. The routes of potential exposure to the petroleum hydrocarbons and metals could be through three pathways: 1) dermal (skin) contact with the soil; 2) inhalation of dusts; and 3) ingestion of the soil.

The most likely time of any potential for human exposure to the petroleum hydrocarbons and metals in the soil will be during soil excavation operations. The GC will be responsible for establishing and maintaining proper health and safety procedures to minimize worker and public exposure to Site contaminants during construction.

8.4.1 Site-Specific Health and Safety Plan (HASP)

The GC will be responsible for the preparation of a Site-specific HASP. The purpose of the HASP will be to establish procedures to minimize the potential for field personnel and off-Site receptors to be exposed to impacted materials originating from the Site.

The HASP will describe health and safety requirements for workers based on tasks performed, [e.g. personal protective equipment (PPE) requirements, training in accordance with Section 1910.120 of 29 Code of Federal Regulations (Hazardous Waste Operations or HAZWOPER training), monitoring equipment needs and use]. In addition, emergency response actions will be described in the HASP. The GC is responsible for verifying that on-Site project personnel have read and will adhere to the

procedures established in the HASP. A copy of the HASP will be kept on-Site during field activities. The HASP will be reviewed and updated as necessary during implementation of the soil excavation.

8.4.2 Health and Safety Officer (HASO)

The Site's HASO identified in the HASP will be on-Site at all times during excavation activities to oversee implementation of the HASP and to ensure that all health and safety measures are maintained. The HASO will have authority to direct and stop (if necessary) all construction activities in order to ensure compliance with the HASP.

The general public will be protected through the following measures:

- the Site will be fenced;
- exposed soil at the construction Site will be watered at least twice a day to prevent visible dust from migrating off-site;
- soil stockpiles will be covered;
- water will be misted or sprayed during the loading of soil onto trucks for off haul;
- trucks transporting contaminated soil will be covered with a tarpaulin or other cover;
- the wheels of the trucks exiting the Site will be cleaned prior to entering public streets;
- public streets will be swept daily if soil is visible; excavation and loading activities will be suspended if winds exceed 20 miles per hour; and,
- the fence will be posted with requirements of the safe drinking water and toxic enforcement act (Proposition 65).

8.5 GENERAL SOIL HANDLING PROCEDURES

The soil handling procedures described in this section are intended to support compliance with federal, state, and local requirements, reduce the potential for off-Site migration, and reduce the potential for exposure by construction workers, nearby residents and workers, and pedestrians, to constituents in Site soil and groundwater.

8.6 SOIL MANAGEMENT

Planned project construction activities are anticipated to disturb soil during the development activities associated with shallow excavation, Site grading, and the construction of new foundations. During all soil handling activities, dust control measures will be implemented to reduce the potential for fugitive dust production. These measures may include moisture-conditioning the soil and covering exposed soil and/or soil stockpiles with secured plastic sheeting to keep soil secured and in place.

The Site's HASP and/or Dust Monitoring Plan should contain additional dust monitoring, action levels, dust control measures, and work stoppage provisions that will be followed during construction activities in addition to those described in this Revised SMP.

8.6.1 On-Site Movement of Soils

Current Site development plans, specific to shallow excavation and grading activities, are to minimize the off-Site movement and disposal of Site material. Soil within the boundaries of the Site may be moved within or between various portions of the Site, managed and re-used without need for

sampling, provided no unanticipated conditions are encountered. Prior to moving and reusing soil on the Site, SCS must be notified and approve of the proposed use. SCS-approved representatives must also visually inspect the soil proposed for reuse prior to reusing the soil.

Trucks used to transport soils, if any, will be loaded in a manner to minimize spillage and blowing of soil. Movement of soils on-Site will be managed in accordance with the Dust Monitoring Plan (DMP) (prepared by others), discussed in Section 8.7.

8.6.2 Soil Excavation, Grading, and Placement

The Client and their contractors will obtain the necessary permits prior to construction and comply with applicable specifications and requirements for the project. A storm water pollution prevention plan (SWPPP) will also be prepared and implemented, including associated storm water best management practices (BMPs). All field activities will be conducted in accordance with federal, state, and local requirements for worker safety, such as Occupational Safety and Health Administration (OSHA) regulations for excavation safety, equipment operation, and exposure to dust and other constituents.

Soil excavation, grading, and placement will be performed by a licensed engineering contractor with a Class A license and Hazardous Substance Removal Certification, using heavy earth-moving equipment. SCS will provide field oversight on behalf of the Client to document the origin and destination of excavated soil. If necessary, excavated soil will be temporarily stockpiled and covered with plastic sheeting (Visqueen™) pending relocation, segregation, characterization and/or off-haul. If excess materials are off-hauled, waste profiling of the material will be completed and documented.

8.6.3 Petroleum Hydrocarbons in Fill Materials

Petroleum hydrocarbons may be encountered during proposed earthwork at levels considered to be a nuisance because of odor and appearance. The California Health and Safety Code (§ 41700 [1999] Public Nuisance) and the Bay Area Air Quality Management District (BAAQMD) (Regulation 1-301 Public Nuisance) have regulations prohibiting the emissions of air contaminants which cause nuisance or annoyance to the surrounding community. Though contact with the petroleum hydrocarbons is not considered a major health risk to construction workers, management of the materials during construction will be performed to comply with the California Health and Safety Code and BAAQMD regulations.

8.6.4 Clean Soil Acceptance Criteria

Soils to be re-used on-Site from on-Site excavation activities and stockpiles will meet residential direct exposure ESLs; except for arsenic for which the RWQCB-approved background value of 10 mg/kg will be used. Sampling frequency and analytical requirements for on-Site and off-Site fill sources will follow the DTSC Information Advisory Clean Imported Fill Materials, dated October 2001.

8.6.5 Soil Import Criteria

Unless from a documented clean source such as a quarry, soil imported onto the Site will be tested in accordance with the “Clean Imported Fill Material” information advisory developed by the California Department of Toxic Substances Control (DTSC, 2001). In accordance with the DTSC information advisory, import fill will be analyzed for the following:

- TPHd and TPHmo by EPA Method 8015 modified with silica gel cleanup by EPA Method 3630;
- TPHg by EPA Method 8015 modified;
- HVOCs by EPA Method 8260;
- SVOCs by EPA Method 8270C;
- CAM 17 Metals by EPA Method 6020;
- OCPs by EPA Method 8081 (for fill source areas formerly used as agricultural land);
- Chlorinated herbicides by EPA Method 8151 (for fill source areas formerly used as agricultural land);
- PCBs by EPA Method 8082; and,
- Asbestos by California Air Resources Board Method 435 (CARB).

For in-place import material, the following sampling frequency is required:

- Two acres or less – a minimum of four soil samples;
- Two to four acres – a minimum of one soil sample per 1/2 acre;
- Four to 10 acres - a minimum of eight soil samples; and,
- Greater than 10 acres- a minimum of eight locations with four subsamples per location.

For excavated and stockpiled import material, the following sampling frequency is required:

- Up to 1,000 cy – one soil sample per 250 cy;
- 1,000 to 5,000 cy – four soil samples for the first 1,000 cy plus one soil sample per each additional 500 cy; and,
- Greater than 5,000 cy – 12 soil samples for the first 5,000 cy plus one soil sample per each additional 1,000 cy.

If the chemical properties of an import fill source are known (i.e. quarried material) sampling may not be required if data are available . Soil quality parameters for acceptable imported soil will be based on RWQCB direct exposure human health risk ESLs for residential use (RWQCB, January 2019 [Rev. 4]). For arsenic, the background level in the Bay Area of 10 mg/kg will be used in place of the ESL. Import soil with visual or olfactory evidence of petroleum hydrocarbons is prohibited.

8.6.6 Soil Stockpiling and Sampling

If soil stockpiling of suspected contaminated soil is to be performed, the excavation contractor shall establish appropriate soil stockpile locations on the Site to properly segregate, secure, control dust, profile, and manage the excavated soil. At a minimum, stockpiled soils will be placed on top of one layer of 10-mil polyethylene sheeting (or equivalent), such as Visqueen™. When stockpiled soil is not actively being handled, top sheeting will be adequately secured so that all surface areas are covered.

If needed, chemical testing of the stockpiled soil will be performed to profile or characterize the soil for disposal. Soil profiling criteria depends on the receiving disposal facility. These procedures shall be established by the excavation contractor and coordinated with the proposed disposal facility prior to initiating soil excavation. SCS shall be provided documentation from the excavation contractor that the soils from the Site to the proposed acceptance/landfill facilities have been approved. Typical soil profiling requirements for landfills are one four-point composite soil sample per 250 cy of material to be disposed.

If soil samples are required for analysis, SCS will collect the samples using a hand-driven sampler with an inside diameter of two inches, lined with a clean brass or stainless steel sleeve, and driven into the soil. Upon recovery, SCS will cover the ends of the sleeve with Teflon, seal the sleeve with plastic end caps, and place the sample into an ice-chilled cooler until delivery under chain-of-custody (COC) protocol to a California-certified analytical laboratory. SCS will identify the soil samples collected from the stockpile using a progressive numbering sequence with the date of the sample collection and the location. Throughout the sample collection and analysis process, SCS will follow all appropriate regulatory sampling methods, holding times, and detection limits.

8.6.7 Soil Segregation

The result of SCS's previous subsurface investigation indicates some of the shallow soil (top ten feet bgs) underlying the Site contains low concentrations of petroleum hydrocarbons and some concentrations of metals that exceed ESLs.

Any excavated or exposed on-Site soils, exhibiting odors and/or other visual evidence of contamination possibly exceeding soil cleanup goals, will be properly stockpiled on-Site to determine if it can be reused on-Site or will require off-Site disposal. The soil will be characterized by sampling and analyzing for petroleum hydrocarbons, metals, and VOCs and any other constituents of concern, as deemed appropriate. All handling of excavated soils will be consistent with Regulation 8, Rule 40 of the BAAQMD in order to limit/control the potential emission of organic compounds and heavy metal dust particles to ambient air from the earthwork activities and from the soil stockpiles.

If analytical results indicate that constituents of concern in excess of respective ESLs, the soil will be segregated and tested for off-Site disposal. If constituents of concern in the excavated excess soil are below their respective ESLs, and not required to be disposed off-Site, it may be reused on-Site, as discussed in Sections 8.6.1 and 8.6.4.

8.6.8 Soil Disposition

The contractor will establish direct truck loading scheduling and/or soil stockpile locations on the Site to properly segregate, cover, moisture control, and profile the excavated soil. Soil profiling criteria will ultimately depend on the acceptance criteria of the facilities receiving the soil. These procedures will be established by the excavation contractor and coordinated with the proposed facilities prior to initiating soil excavation. SCS shall be provided documentation from the excavation contractor that the soils from the Site development project to the proposed acceptance facilities have been approved. The contractor, on behalf of the owner, will be responsible for tracking final soil dispositions. Any excavated soil considered Federal RCRA or State of California non-RCRA hazardous waste will be tracked using the Uniform Hazardous Waste Manifest System (USEPA Form 8700-22), as applicable. Soil not considered hazardous waste will be tracked using non-hazardous bills of lading. These two systems will be used to comply with appropriate state and local requirements. All manifest and bills of lading will be provided to SCS during or subsequent to said excavation activities.

The contractor will arrange for transportation of all wastes off-Site to the appropriate disposal facility using a permitted, licensed, and insured transportation company. Transporters of hazardous waste must meet the requirements of 40 CFR 263 and 22 CCR 66263. All trucks transporting bulk hazardous waste will be properly lined and covered with compatible materials.

If soil is characterized as a hazardous waste and identified for off-Site transport, an appropriate

USEPA Generator Identification Number will be recorded on the hazardous waste manifests used to document transport of hazardous waste off-site. The hazardous waste transporter, disposal facility, and U.S. Department of Transportation (DOT) waste description required for each manifest will be determined on a case-by-case basis. A description of the number of containers being shipped, the type of container, and the total quantity of waste being shipped will also be included on each manifest.

The excavation contractor will be responsible for accurate completion of the hazardous waste manifests and nonhazardous bills of lading. Records of all wastes shipped off-Site will be maintained by the owner and will be made available for inspection on request. The final destination of wastes transported off-Site will be documented in the Soil Management Completion Report (Section 8.0).

The following records will be kept by the owner for the indicated length of time:

1. Copies of uniform hazardous waste manifests signed by the designated waste disposal facility will be retained for at least five years from the date the waste was accepted by the initial transporter.
2. All records pertaining to the characterization of hazardous or nonhazardous waste will be retained for a minimum of three years.

8.7 DUST MONITORING PLAN

Prior to initiating construction activities, a detailed Dust Monitoring Plan (DMP) will be prepared by the GC and will outline dust control and monitoring procedures to be implemented during potential dust generating activities. Dust control will be accomplished through implementation of best management practices, including engineering controls identified under Sections 8.4 through 8.6. Misting or spraying will be performed to sufficiently reduce fugitive dust emissions, but limited to prevent water runoff. Additionally, efforts will also be made to minimize the material drop height from an excavator's bucket onto stockpiles and/or into transport trucks.

The DMP will be submitted to the SFDPH for review and approval. Subsequent to approval, the DMP will be implemented to reduce potential exposure during excavation and loading operations to comply with Article 22B of the San Francisco Public Health Code. In accordance with Article 22B, projects that disturb more than 50 cy of soil and are greater than one- half acre, must evaluate whether "sensitive receptors" are located within 1,000 feet of the Site boundary. This document will contain measures to protect construction workers and the public including: dust control measures and work stoppage provisions that will be followed during construction activities. The plan will at a minimum, specify:

- Conditions when real-time dust monitoring is required;
- The dust monitoring equipment to be used, as well as the minimum detection limit and equipment calibration requirements;
- Monitoring frequency and locations;
- Reporting requirements;
- Dust threshold levels and proposed corrective action responses; and,
- A figure showing the approximate 1,000-foot sensitive receptor zone around the Site.

General dust control measures that may be used at the Site include, but are not limited to the

following:

- Covering soil stockpiles with plastic sheeting;
- Watering uncovered ground surface at the Site; use of water will be limited to prevent runoff;
- Misting or spraying of soil during excavation and loading;
- Emplacement of gravel and/or rubble plates on-Site access roads as feasible;
- Trucks hauling soil from the Site will be covered;
- Visible dust will be monitored during excavation and subsurface demolition;
- The soil drop height from an excavator's bucket onto soil piles or into transport trucks will be minimized;
- Windbreaks will be deployed as necessary;
- If necessary, the area of excavation may be limited to reduce dust generation;
- Site vehicle speed limits;
- Street sweeping;
- Termination of excavation if winds exceed 25 mph; and,
- Addition of soil stabilizers and other responses as-needed.

Additionally, during excavation and subsurface activities, a Site-specific DMP will be implemented, which includes possible monitoring. Dust monitoring will include the following:

- Analysis of wind direction;
- Dust monitors at the work zone and Site perimeter and appropriate record keeping, including visible inspection; and,
- Establishing a hotline for community response.

The dust monitors shall be capable of continuous, real-time monitoring data-logging, and data transmission, measurement of air-borne particulates 10 micrometers in size (PM-10) or less, measurement of a 15-minute time-weighted average (TWA), a detection limit range of between one and 400,000 µg/m^3 and be able to trigger visual and/or remote alarms consisting of a flashing light, or similar, to alert on-Site monitoring and/or contractor personnel an action level has been exceeded. The remote alarm, if used, will consist of a text message, email, phone message, or similar, to alert off-Site monitoring personnel an action level has been exceeded. The public will be notified as necessary and the GC will take appropriate corrective actions.

Except in the case of heavy fog or precipitation events, the dust monitors will be set up on a daily basis, for the first week of each new, potential dust-generating activity conducted at the Site (e.g., one week of dust monitoring at the start of grading, one week of dust monitoring at the start of excavation, etc.). The dust monitors will be set up by dust monitoring personnel at the start of each work-day prior to the start of the dust generating activity, and taken down at the conclusion of each work-day. Additionally, dust monitoring personnel will be present on-Site to monitor field conditions and consult with contractor personnel on suitable dust suppression measures at:

- The start of each new dust-generating activity, and for one to two days thereafter depending on the observed Site conditions;

- The day after an exceedance of the daily average action level, if any;
- The day of and/or the day after an exceedance of the 15-minute TWA action level, if any;
- The day of and/or the day after visual observation of fugitive dust, if any; and,
- The day of and/or the day after neighbor complaints of dust, if any.

Two dust monitors will be placed at the Site perimeter (one upwind and one downwind location. Additional dust monitors will be placed at the western and southern boundaries near the adjacent residential buildings during all excavation and soil handling activities, if needed. Wind direction will be evaluated based on a wind sock or flag located at the Site as well as a weather forecasting and reporting website. Dust monitor locations will be re-located in the case of significant changes in the wind direction. The locations of the dust monitors will be recorded in dedicated field logs.

Action levels for analytes in dust will be calculated for the Site and presented in the Site-specific DMP. The action levels will be defined as the concentration of total dust in the air at which the contaminant of concern would be at its established OSHA Permissible Exposure Limits and the highest detected concentration of the analyte in soil.

If the daily average from perimeter monitoring exceeds the California Air Resources Board (CARB) standard or the 15-minute TWA, additional dust control measures will be implemented. The daily average will be calculated over a 24-hour period based on the continuous dust monitoring data collected over the course of the work day. Baseline dust conditions for the day may be either measurements collected from the upwind dust monitoring location prior to the start of the work day or as continuous monitoring data over an 8-hour period collected one to two days before the start of construction activities and extrapolated over the remainder of the 24-hour period.

If dust levels exceed the action levels listed above or if excessive visible dust is observed, additional engineering controls will be immediately implemented by the GC to minimize fugitive dust emissions. If necessary, work will cease until conditions can be controlled so three consecutive measurements are below the established action levels. Visible emissions shall not be allowed to migrate off-Site at any time.

8.8 ODOR CONTROL

If needed, odor suppression measures will be implemented by the GC to minimize odor during excavation activities. The means to be considered for minimization of odors during excavation activities includes, but are not limited to: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; (c) Limiting soil excavation or loading to times when meteorological conditions are conducive to conducting operations (e.g., the predominant wind direction does not direct vapors or odors toward a sensitive receptor); (d) use of foams to cover exposed odorous soil and rock material; (e) use of chemical odorants in spray or misting systems; and, (e) use of staff to monitor odors in surrounding area.

8.9 NOISE CONTROL

Control of noise during construction activities will abide by the City of San Francisco Noise Control Ordinance, adopted by San Francisco in 2008 (Police Code Sections 2907 (b); 2907 (c); 2901.12; 2908).

8.10 GROUNDWATER MANAGEMENT

Construction dewatering is not anticipated based on development plans. If contaminated groundwater is generated during construction activities, SCS will discuss appropriate management and discharge of the extracted groundwater with the GC and the SFPUC. Groundwater management activities will be documented in the Construction Completion Report.

8.11 STORM WATER RUNOFF CONTROL

Measures will be implemented to minimize impacts from storm water runoff into the bay and storm drains. This will include the preparation and implementation of a SWPPP and associated BMPs. The GC and their contractors will implement BMPs as needed to protect against surface water inflow, storm water erosion, and internal drainage and runoff. BMPs may include, but are not limited to, covering the stockpile with Visqueen™ or other plastic sheeting and use of hay bales or straw wattles to control runoff.

8.12 CONTINGENCY PROCEDURES FOR UNKNOWN/UNEXPECTED CONDITIONS

The following tasks should be implemented during soil excavation if unknown historical subsurface features and/or unanticipated hazardous materials are encountered. While certainly not expected, such unknown materials typically may include unaccounted for underground storage tanks (USTs) and associated product lines, sumps, and/or vaults, former monitoring wells, and soil with significant petroleum hydrocarbon odors and/or stains:

- Stop work in the area where the suspect material is encountered and cover with plastic sheets;
- Notify the GC's HSSO and Site superintendent. The GC will request that SCS conduct a Site inspection and will consult with the SCS regarding appropriate follow- up actions in the suspect area. SCS will notify the SFDPH (if needed and after consultation with the owner) of Site conditions that indicate a material threat to human health or the environment; and,
- Review the existing HASP for revisions, if necessary, and have appropriately trained personnel on-Site to work with the affected materials, once directed by the GC.

If necessary, notifications will be performed, permits will be in place prior to subsurface feature removals, and permit conditions will be followed.

If a UST, product line, sump, or vault is found, SFDPH and San Francisco Fire Department (SFFD) will be notified and a licensed tank removal contractor will properly remove and dispose of the UST. Proper permits and notifications should be in place prior to removal of the UST. If soil staining is observed, the affected soil will be placed in a stockpile on plastic sheets and covered with plastic sheets. SCS will complete soil sampling and analysis tasks for UST closure in accordance with both SFDPH and SFFD. SCS will collect and analyze soil samples to determine disposal of the material, the extent of the unexpected area of apparent petroleum impacted soil, and that impacted material has been appropriately removed. Soil samples collected from beneath fuel pipelines, if any, will be collected beneath joints and elbows and at a frequency of one sample per twenty linear feet.

If a sump and/or vaults are located during excavation activities, SCS will be contacted for inspection

and appropriate action, SCS will notify the SFDPH and SFFD (if needed and after consultation with the owner) of Site conditions. If no liquid, obvious soil staining or odors are noted, the sump and/or vault will be destroyed and disposed of. SCS will collect and analyze soil samples from beneath the sump and/or vault to determine disposal of the material, the extent of the unexpected area of apparent impacted soil, if any, and that impacted material has been appropriately removed. If liquid is present within the sump and/or vault and/or obvious staining and odors are noted, SCS will collect samples for analyses to evaluate proper disposal of the material SCS will collect and analyze samples of the liquid material and soil samples from beneath the sump and/or vault to determine disposal of the material, and the extent of the unexpected area of apparent impacted soil, if any, and that impacted material has been appropriately removed.

If stained soil or odors are noted in association with an unknown subsurface feature, plastic sheeting will be placed over the affected area and SCS will be contacted for inspection and appropriate action. If the stained or odor-containing soil is excavated, the soil will be stockpiled onto plastic sheeting and covered with plastic sheeting. SCS will collect and analyze soil samples to determine disposal of the material, the extent of the unexpected area of apparent petroleum impacted soil, and that impacted material has been appropriately removed. Soil samples collected from beneath fuel pipelines, if any, will be collected beneath joints and elbows and at a frequency of one sample per twenty linear feet.

9 SOIL MANAGEMENT COMPLETION REPORT

A Soil Management Completion Report (SMCR) will be prepared that summarizes the soil, and as necessary, groundwater management activities and any subsequent investigative and removal activities that were completed during redevelopment and submitted to SFDPH.

The SMCR will present a chronology of the construction events, a summary of analytical data, a copy of all manifests from the Site, and a description of all soil and groundwater management activities at the Site. The SMCR will also contain laboratory analytical results and figures, as appropriate, to provide details regarding the amount and type of contamination encountered (if any) during various activities. The SMCR will also summarize residual contaminants if any remaining on-Site after the completion of redevelopment activities and document that soil handling procedures were implemented in accordance with this SMP. We will discuss the SMCR with SFDPH as appropriate and respond to questions, as needed.

10 MODIFICATIONS TO THE SMP

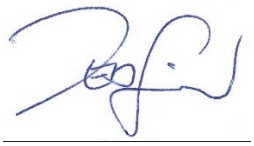
There may be a need to modify the SMP as Site conditions and/or Client plans change. Additionally, as implementation of the SMP proceeds, the Client and/or SFDPH may request revised provisions of the SMP, including those related to the soil and/or groundwater at specified locations within the Site. Such requests for modification will be included in amendments to the SMP.

11 LIMITATIONS

This document has been prepared for Reservoir Community Partners LLC (Clients and Owners) for the Balboa Reservoir project in San Francisco, California (the Site). This document has been prepared in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances, in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions presented herein. Third parties use this document at their own risk.

Changes in Site use and conditions may occur due to variations in rainfall, temperature, water usage,

or other factors. Additional information that was not available to the consultant at the time of preparation of this document, or changes that may have occurred on the Site or in the surrounding area may result in modification to the Site that would impact the information presented herein. This document is not a legal opinion. We trust this document provides the information you require at this time. If you have any questions or need additional information, please call SCS at (925) 426-0080.



March 27, 2109
Ted Sison, REPA, CPSWQ, QSD Date
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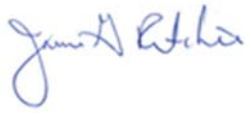

March 27, 2019
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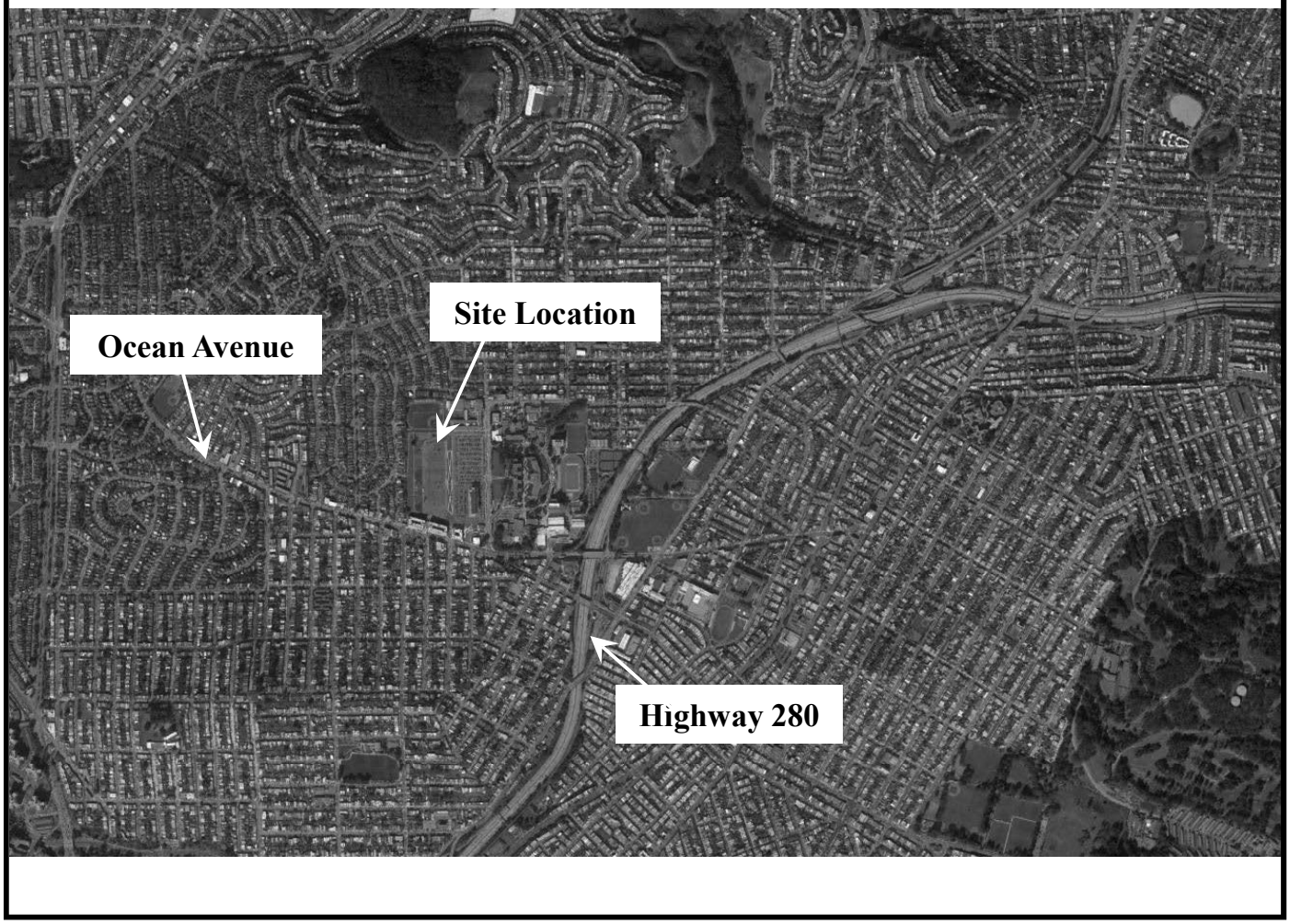
Figures



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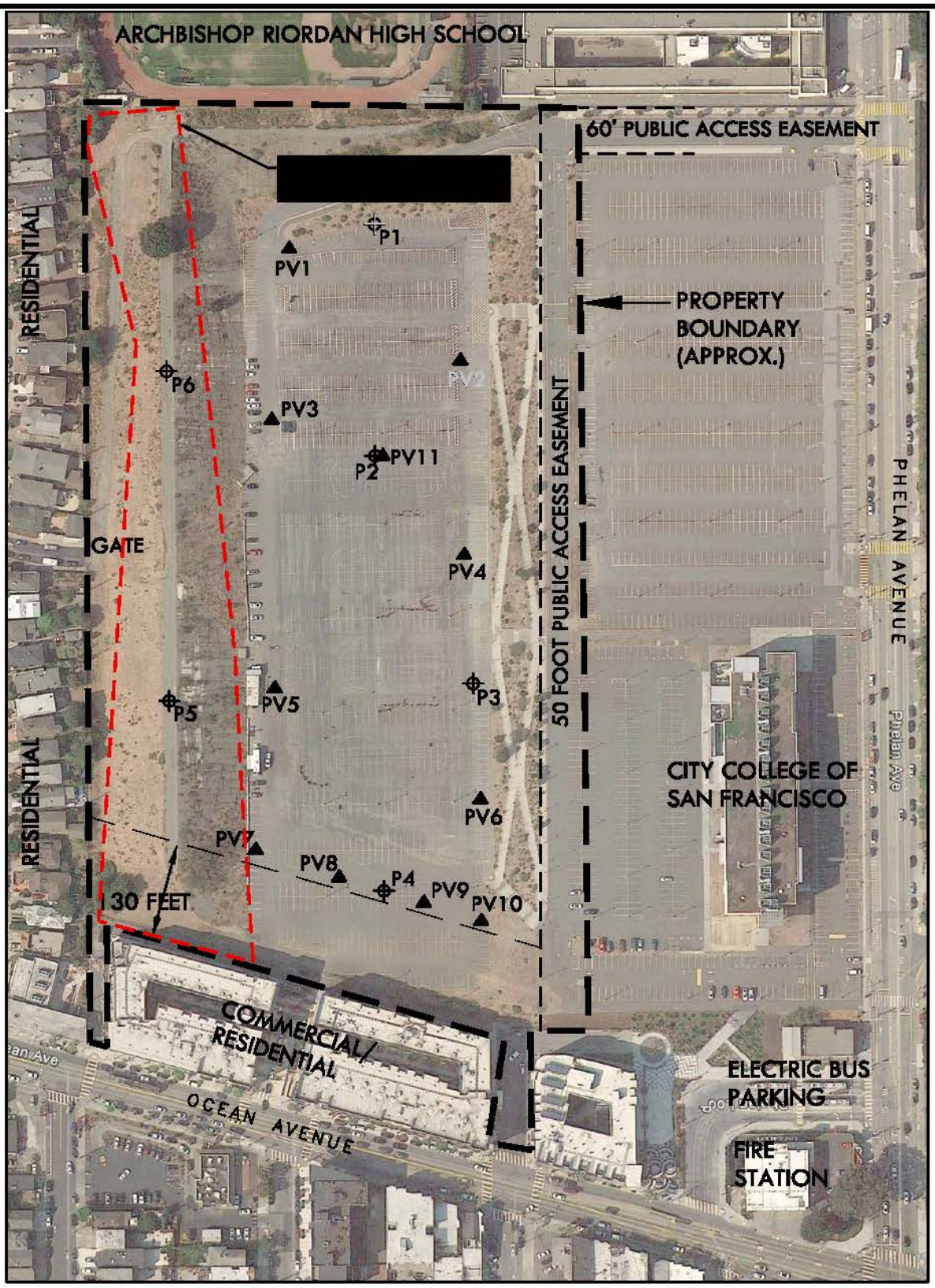
SITE VICINITY MAP

Balboa Reservoir
South San Francisco, California

Figure 1



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PROJ. NO.: 01217344.01	DWN. BY: TMS/JM	AGMD FILE: F2-SERM CUT.dwg
DATE: 9/26/2018	CHK. BY: JR	APP. BY: JR

SHEET TITLE: SITE PLAN

PROJECT TITLE: 11 PHELAN AVENUE
SAN FRANCISCO, CALIFORNIA

SCALE: AS SHOWN

FIGURE NO.: 2

SCS ENGINEERS

ENVIRONMENTAL CONSULTANTS

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PROJ. NO.:	DWN. BY:	ACAD FILE:
01217344.01	TMS	F4.dwg
DATE: 2/20/19	CHK. BY: JR	APP. BY: JR

SHEET TITLE: CONCEPTUAL DEVELOPMENT PLAN

PROJECT TITLE: 11 PHELAN AVENUE
SAN FRANCISCO, CALIFORNIA

SCALE: N.T.S.

FIGURE NO.: 4

Tables

Table 1
Soil Vapor Sample Analytical Results
Petroleum Hydrocarbons and VOCs
11 Phelan Avenue, San Francisco, California
for Reservoir Community Partners, LLC.

Sample Location	Depth (ft bgs)	Purge Volumes	Sample Date	VOCs													Atmospheric Gas		
				TPHg	Benzene	Toluene	Ethylbenzene	Xylenes (m, p)	Xylene (o)	PCE	TCE	Naphthalene	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	1,1-Difluoroethane (leak check)	Methane	Oxygen	Carbon Dioxide
				µg/m^3													ppmV	percent by volume	
PV-1	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
PV-2	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
PV-3	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
PV-4	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
PV-5	5	3	8/17/2018	ND<10,000	**52**	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	20	ND<1.0
PV-6	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
PV-7	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	11	11
PV-8	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	16	5.4
PV-9	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	15	6.0
PV-10	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	14	7.2
PV-11	5	3	8/17/2018	ND<10,000	ND<45	ND<200	ND<100	ND<200	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<9	ND<10,000	ND<1,000	21	ND<1.0
Residential ESL Value*				20,000	3.2	10,000	37	3,500		15	16	2.8	280	2,800	0.32	NE	NE	NE	NE
Commercial ESL Value**				83,000	14	44,000	160	15,000		67	100	12	1,200	12,000	5	NE	NE	NE	NE

Notes:

TPHg = total petroleum hydrocarbons as gasoline; analyzed using Method 8260B

VOCs = volatile organic compounds; analyzed using Method 8260B. Analytes not listed were not detected at or above reporting limits.

PCE= tetrachloroethylene

TCE= trichloroethylene

µg/m^3 = micrograms per cubic meter

* =Resdiential ESL = Subslab/Soil Gas Vapor Intrusion, Residential, San Francisco Bay Regional Water Quality Control Board, January 2019

** = Commercial ESL = Subslab/Soil Gas Vapor Intrusion, Commercial, San Francisco Bay Regional Water Quality Control Board, January 2019

NE = No ESL Value established.

** = See Figure 2 for Sample Locations

Bold = Exceeds Residential ESL

Table 2
Composite and Discrete Soil Sample Analytical Results
11 Phelan Avenue, San Francisco, California
for Reservoir Community Partners, LLC.

Sample Location	Sasmple Type (Composite = C or Discrete =D)	Depth (ft bgs)	Sample Date	TPHg	TPHd	TPHmo	OCPs + PCBs*****	VOCs****	SVOCs	Metals*															
										Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Hexavalent Chromium	Cyanide	Lead **	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
				mg/kg																								
P1 0.75,2.5	C	0.75, 2.5	8/17/2018	ND<1.0	4.0	79	ND<0.005	ND<0.005	ND	ND<0.5	1.5	44	ND<0.5	ND<0.25	48	6.6	8	0.12J	ND<0.1	2.3 / ND<0.10	ND<0.050	ND<0.50	32	ND<0.5	ND<0.50	ND<0.5	33	25
P2 0.75, 2.5	C	0.75, 2.5	8/17/2018	ND<1.0	11	110	ND<0.005	ND<0.025	ND	ND<0.5	2.5	37	ND<0.5	ND<0.25	54	8.4	5.6	0.16J	ND<0.1	2.2 / ND<0.10	ND<0.050	ND<0.50	31	ND<0.50	ND<0.50	ND<0.50	38	20
P3 0.75, 2.5	C	0.75,2.5	8/17/2018	ND<1.0	1.1	25	ND<0.005	ND<0.005	ND	ND<0.5	3.2	55	ND<0.5	ND<0.25	59	8.4	9.8	**0.35**	ND<0.1	2.5 / ND<0.10	ND<0.050	ND<0.50	40	ND<0.50	ND<0.50	ND<0.50	61	26
P3 0.75	D	0.75	8/17/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22H	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P3 2.5	D	2.5	8/17/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17HJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P4 0.75, 2.5	C	0.75, 2.5	8/17/2018	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND	ND<0.5	1.9	46	ND<0.5	ND<0.25	47	5.5	7.3	ND<0.10	ND<0.1	2.8 / ND<0.10	ND<0.050	ND<0.50	19	ND<0.50	ND<0.50	ND<0.50	40	20
P5 9.5 / P6 0.75, 5	C	9.5/ 0.75, 5	8/17/2018	ND<1.0	2.0	20	ND<0.005	ND<0.005	ND	ND<0.5	2.8	140	ND<0.5	ND<0.25	58	8.2	9.8	**0.31**	ND<0.1	2.9 / ND<0.10	ND<0.05	0.53	35	ND<0.50	ND<0.50	ND<0.50	50	26
P5 9.5	D	9.5	8/17/2018	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28H	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P6 0.75	D	0.75	8/17/2018	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.55H**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P6 5	D	9.5/ 0.75, 5	8/17/2018	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.34H**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TTLC Value (and STLC Value where appropriate)* **				NE+D2A22:M25	NE	NE	varies	varies	NE	500	500	10000 (100)	75	100 (1)	2,500 (5.0)	8,000	2,500	500	NE	1,000 (5.0)	20	3,500	2,000 (20)	100	500	700	2,400	5,000
Residential ESL/Commercial ESL				430/2,000	260/1,200	12,000/180,000	varies	varies	NE	11/160	0.067/0.31	15,000/220,000	1,600/6,900	910/4,000	120,000/1,800,000	420/1,900	3,100/47,000	0.3/6.2	5.5/25	80/320	13/190	390/5,800	820/11,000	390/5,800	390/5,800	0.78/12	390/5,800	23,000/350,000

Notes:
VOCs = volatile organic compounds; analyzed using EPA Method 8260B.
SVOCs = semi-volatile organic compounds; analyzed using EPA Method 8270C
Resdiential/Commercial Values, Direct Exposure. Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, January 2019
Value is shown in **bold** if in excess of corresponding ESL value.
H = sample out of holding time, J = reported value is an estimated value.
mg/L = milligrams per liter
mg/kg = milligrams per kilogram
NE = Not Established; NA = Not Analyzed; ND = Not Detected above noted reporting limit
ft bgs = feet below ground surface
See Figure 2 for sample locations.
* Metals analysis included CAM 17 suite.
**Values shown are Lead (mg/kg)/ Lead STLC (mg/L)
Total Threshold Limit Concentraton (TTLC) and Soluble Threshold Limit Concentration (STLC) values. Value is **bolded** if in excess of TTLC, and ***bold italicized if in excess of ten time the STLC value.
**** The following VOCs were detected (mg/kg), none of which exceeded applicable screening values:
P5 9.5 & P6 0.75, 5= Tetrachloroethylene 0.00042 Vinyl Chloride: 0.0003
*****Organochlorine Pesticides + PCBs detected (mg/kg)
P1 0.75, 2.5 p,p-DDT:0.00030