Pacific Gas and Electric Company

Anne Conner
Sr. Project Manager
Environmental Remediation

3401 Crow Canyon Rd.
San Ramon, CA 94583

925.415.6381 direct
925.415.6852 fax
APB1@pge.com

December 16, 2016

Ms. Dilan Roe
Alameda County Department of Environmental Health
Division of Environmental Protection
1131 Harbor Way Parkway, 2nd Floor
Alameda, CA 94502-6577

Subject: **Site Management Plan – SLIC Case No. RO0000099**
Pacific Gas and Electric Company, Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

Dear Ms. Roe:

Please find attached the *Site Management Plan, Pacific Gas & Electric Company (PG&E), Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California*, dated November 30, 2016 and prepared by ERM-West on behalf of PG&E. This Site Management Plan (SMP) is required to meet the conditions of the 2012 Corrective Action Plan (CAP). The draft Land Use Covenant (LUC), to which the SMP will be attached, will be submitted under separate cover.

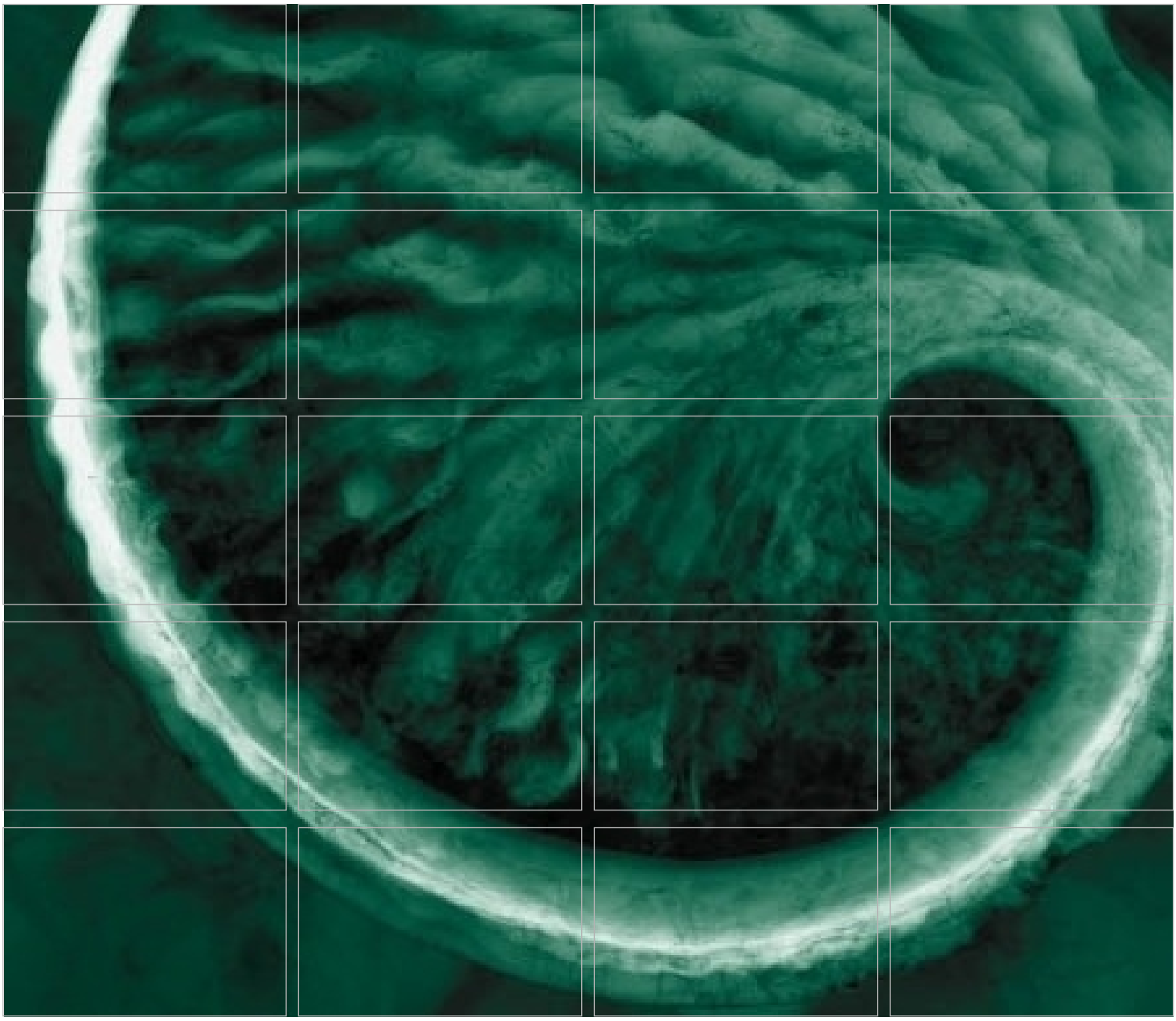
If you have any questions regarding this document, please contact Carol Yamane, the new PG&E project manager for this project, at (925) 428-1042 or CXYF@pge.com.

"I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge."

Sincerely,

Ben LePage
Manager
PG&E Environmental Remediation

Enclosure



Site Management Plan

PG&E Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

16 December 2016

www.erm.com

Prepared for:
Pacific Gas and
Electric Company

The business of sustainability

ERM

Pacific Gas and Electric Company

Site Management Plan

PG&E Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

16 December 2016

Project No. 0313775

Belinda Butler-Veytia
Partner

Judy Nedoff
Project Manager

Gina Sperinde, P.E.
Senior Engineer

Environmental Resources Management
1277 Treat Blvd., Suite 500
Walnut Creek, California 94597
T: 925 946 0455
F: 925 946 9968

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ACRONYMS

ACDEH	Alameda County Department of Environmental Health
BAAQMD	Bay Area Air Quality Management District
bgs	Below ground surface
CACR	Corrective Action Completion Report
CAI	Corrective Action Implementation Workplan
CCR	California Code of Regulations
CFR	Code of Federal Regulations
DTSC-SL	California Department of Toxic Substances Screening Level
ERM	ERM-West, Inc.
GHT	Gas holder tank
HASP	Health and Safety Plan
LUC	Land use covenant
mg/kg	Milligram per kilogram
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic aromatic hydrocarbon
P.E.	Professional Engineer
PG&E	Pacific Gas and Electric Company
SMP	Site Management Plan
sf	Square feet
SWPPP	Storm Water Pollution Prevention Plan
TPH	Total petroleum hydrocarbon
USC	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound

1.0 INTRODUCTION

On behalf of the Pacific Gas and Electric Company (PG&E), ERM-West, Inc. (ERM) has prepared this Site Management Plan (SMP) for the General Construction Yard property located at 4930 Coliseum Way, Oakland, California (site; Figure 1). The purpose of this SMP is to describe the general procedures for long-term management of soil to protect against potential risks due to the presence of lead in soil present beneath the engineered asphaltic concrete cap (the Cap). The Cap Area is shown on Figure 2. The SMP also includes an Operation and Maintenance (O&M) Plan for ongoing inspection and maintenance of the Cap, plus other procedures applicable to various site activities

The Alameda County Department of Environmental Health (ACDEH) has been granted case closure for the site (Case RO0000099). As a requirement of case closure, PG&E has entered into a Covenant and Environmental Restriction (a "land use covenant," or "LUC") with the ACDEH to protect the Cap and prevent potential exposure to lead in soil (referred to as "Soil Restricted Area" in the LUC) beneath the Cap Area during activities that might disturb or expose soil. The LUC also prohibits the use of groundwater beneath the entire site (referred to as "Burdened Property" in the LUC) for any purpose without approval by the Water Board. The restriction for groundwater use is based on the presence of chlorinated volatile organic compounds (VOCs) on the northern part of the site that originate from other properties. The LUC has been recorded at the Alameda County Recorder's Office. The LUC also restricts certain land uses at the site, and sets forth the process for obtaining regulatory approval for any proposed changes to those restrictions on land uses.

It is the responsibility of the property owner (currently PG&E) to implement the SMP and comply with the provisions in the LUC.

The following sections summarize the site background and remediation activities conducted in the Cap Area, describes the current conditions, identifies the users and applicability of this plan, describes the plan objectives, and presents the plan organization.

1.1 SITE BACKGROUND AND SUMMARY OF REMEDIATION ACTIVITIES

The site was used by PG&E as a natural-gas distribution center and equipment storage facility from at least the late 1930s until 1990, when the former above-ground natural gas holder tank (GHT) was removed. Currently, the site is used as an equipment and material storage facility for PG&E construction operations. The

site is also used for construction and maintenance vehicle parking. The 5-acre site is bounded by Coliseum Way to the south, 50th Avenue to the southeast, and industrial properties to the north. The surrounding area consists primarily of commercial and light industrial businesses.

Investigations and removal actions have been conducted at the site since 1987 to evaluate and/or remediate soil and groundwater conditions related to the former fuel and oil underground storage tanks (USTs), the migration of VOCs in groundwater from neighboring up-gradient properties, and the presence of lead in soil that originated from lead-based paint coatings on the former GHT. A brief summary of those activities is provided below:

- **Soil and Groundwater Impacts from USTs -** From 1988 through 1991, USTs were removed and petroleum hydrocarbon-impacted soil was excavated from the area of the USTs located on the northern part of the site. Soil exceeding petroleum hydrocarbon cleanup levels was left in place along the northern boundary of the site adjacent to the former Superior Plaster Casting and former AAA properties due to reported releases of petroleum hydrocarbons from these adjacent sites. Remaining groundwater impacts at the site are attributed to up-gradient releases of VOCs. ACDEH approved decommissioning of the groundwater monitoring wells in 2014 and 2015. In a 16 June 2015 letter to PG&E, ACDEH indicated that no additional investigation or remediation was required for the former USTs at the site.
- **Lead-Impacted Soil Investigations and Initial Cap Installation –** When the GHT was removed in 1990, lead-based paint chips were reported to have been observed in shallow soil after the demolition, and elevated concentrations of lead were detected in soil. An original engineered asphalt cap was installed by PG&E in 1992 to minimize human exposure to the lead-impacted soil. Additional soil sampling was conducted by AMEC in 2010 and 2011, as documented in the *Corrective Action Plan* (CAP; AMEC, 2012), to better define the distribution of lead in soil that exceeded the commercial/industrial California Department of Toxic Substances Screening Level (DTSC-SL) of 320 milligrams per kilogram (mg/kg). Elevated lead levels were found to be limited to shallow soil at less than 4.5 feet below ground surface (bgs), with the highest concentrations from 0 to 0.5 feet bgs. The maximum concentration of lead encountered on the Site was 9,800 mg/kg in the 0 to 0.5 foot bgs interval (AMEC, 2012). Lead concentrations generally decreased with sample depth. Elevated concentrations were more extensive in an area to the south than was covered by the 1992 cap, and expansion of the Cap was included as part of the CAP remedy.
- **Asphalt Cap Maintenance, Inspection, and Replacement –** In 2010 and 2012, PG&E conducted cap maintenance at the site, including sealing of cracks and

replacement of sections of the asphalt. In 2012, PG&E applied additional slurry sealant to areas of the cap and replaced pavement outside of the cap boundary. During the December 2015 visual cap inspection, approximately 35,960 square feet (sf) of cracked asphalt was observed in the Cap Area, and the previously sealed areas were observed to be deteriorating (ETIC Engineering, Inc., 2015). The corrective action for the asphalt cap was identified in the ACDEH-approved *Corrective Action Implementation Workplan* (CAI; ERM, 2016a). Repair and replacement of the engineered asphalt cap to meet the requirements of the CAI were completed in August 2016, and documented in the *Corrective Action Completion Report* (CACR; ERM, 2016c). A majority of the asphalt Cap was repaved to ensure that cap integrity was restored and maintained across the entire General Construction Yard.

1.2 CURRENT CONDITIONS

The final 2016 Cap replacement/restoration as built is presented on Figure 2, and shows areas of removed vegetation, drainage ditch slurry sealing, former asphalt cap that remains, and final asphalt cap restoration. In total, approximately 95,500 sf of new asphalt was installed. Approximately 24,300 sf of the asphalt emplaced was of 3-inch asphalt depth; 69,400 sf was of 4-inch asphalt depth; and 1,800 sf was of 6-inch asphalt depth. The GHT concrete foundation is still present beneath the pavement. Soil beneath the GHT foundation is not impacted by lead; thus, this area is not included in the Cap Area (Figure 2).

1.3 SITE MANAGEMENT PLAN USERS AND APPLICABILITY

This SMP has been developed to outline the requirements associated with intrusive activities involving the disturbance or removal of subsurface materials in the Cap Area at the PG&E General Construction Yard. Management of groundwater is also included in the SMP for protection of workers in the event that groundwater is encountered during subsurface site activities, particularly on the northern part of the property. Unless all procedures within this SMP are adhered to, a separate ACDEH-approved SMP will be required for the specific activity.

Owners and contractors make up the target audience for this document. These terms are defined as follows as they apply to this document:

- Owner is defined as the property owner and a representative of the owner responsible for work subject to this plan, such as the owner's agent(s), representative(s), tenant(s), and contractor(s).

- Contractor is defined as any company or individual that is contracted or employed to conduct construction activities subject to this plan. This construction may be either for interim/temporary uses or for redevelopment, and includes, but is not limited to, subsurface repairs, drilling, maintenance, landscaping, utility installation or repair, or new construction.

1.4 SITE MANAGEMENT PLAN OBJECTIVES

This plan consists of two main parts: the soil management requirements and the O&M plan. The primary objectives of this plan are the following:

- Notify current and future owners of the site and their contractors about the presence of lead-impacted soil;
- Indicate owner's and contractor's requirement to comply with applicable laws and regulations, and the procedures to follow related to the disturbance and handling of these materials;
- Provide examples of applicable laws, regulations, and other requirements that are potentially triggered by the presence of these materials to assist in such compliance; and
- Define the owner's ongoing requirements regarding inspections and maintenance in order to maintain the integrity of the Cap.

Applicable requirements may include, but are not limited to, the following:

- ACDEH requirements for an SMP that is specific to the activity or site development being conducted.
- California hazardous waste code (Title 22, California Code of Regulations [CCR], Division 4.5, 66250 et seq.), which regulates the identification, generation, management, transportation, and disposal of hazardous waste in California.

1.5 SITE MANAGEMENT PLAN ORGANIZATION

Subsequent to this introductory section, this document is organized into the following sections:

- Section 2 describes soil management requirements for the site;
- Section 3 details the O&M Plan for maintaining the Cap at the site;
- Section 4 provides a summary of the administrative provisions for the SMP and incorporated soil management plan;

- Section 5 lists references that are cited in the text;
- Figures follow the text of this document; and
- Appendices A and B provide the forms that shall be used for conducting the Cap inspections pursuant to Section 3.0 of this document.

1.6 SUSTAINABLE PRACTICES

To the extent possible, the contractor should conduct the work activities governed by this SMP in a sustainable manner. Typical sustainable practices include, but are not limited to, the following:

- Limit greenhouse gas emissions from project-related vehicles (passenger cars and trucks) and construction equipment by minimizing (1) periods of engine idling during periods of non-activity; (2) distances traveled in support of the work activities by utilizing local subcontractors/work force; and (3) worker trips by encouraging the use of carpools.
- Use best management practices to reduce the generation of airborne dust during excavations or other disturbance of exposed soils, including using dust suppression techniques, avoiding disturbance of soils during periods of high wind, covering soil stockpiles and truckloads with plastic sheeting, and minimizing the surface area of soils exposed at any given time.
- Reuse the soils on site when possible, and limit the volume of excavated material requiring off-site disposal, such as by segregating visually impacted soil from soils exhibiting no visual evidence of impacts.
- Recycle debris such as concrete or asphalt, if encountered.
- If imported backfill is needed, procure backfill material from a local source to minimize transport emissions.
- If possible, use local vendors for purchasing/renting products and equipment and qualified local subcontractors to boost the local economy.
- Employ best management practices to avoid creating nuisances to neighbors, such as (1) soliciting public participation related to the scope of work; (2) structuring the work activities to minimize the number and duration of field activities; (3) covering excavated soils to prevent dust generation; and (4) setting up work areas to avoid interruption to adjacent businesses.
- Incorporate safe work practices to avoid impacts to the public and site workers, in accordance with a project-specific HASP, as discussed in Section 2.1.1. For work being performed in public rights-of-way, develop and implement a traffic control plan, employing cones, signage, and flaggers as appropriate.

2.0 SOIL MANAGEMENT REQUIREMENTS

This portion of the SMP addresses earthwork, construction, or other intrusive activities that may occur in the Cap Area. This construction may be either for interim/temporary uses or for redevelopment; and includes, but is not limited to, subsurface repairs, drilling, maintenance, landscaping, utility installation or repair, or new construction. The requirements contained in this section do not apply to intrusive activities outside the Cap Area.

Requirements pertaining to any activity that breaches the asphalt Cap and disturbs any soil that contains lead concentrations above the commercial/industrial DTSC-SL of 320 mg/kg are presented below. Section 1.2 and Figures 2 and 3 describe post-remediation conditions of the site, which shall be taken into account while planning and performing any such activity. Additional regulatory requirements may also pertain to activities that breach the Cap.

In the event that the owner or contractor does not wish to follow the soil management requirements set forth in this SMP for reasons that the procedures may not be appropriate for their project, then a separate project-specific Soil Management Plan is required. The project-specific Soil Management Plan shall be submitted to ACDEH for review and approval at least 45 days prior to the planned breaching of the Cap, and the Cap shall not be breached unless and until ACDEH approves the project-specific Soil Management Plan. This section summarizes current soil management requirements as of the date this plan was approved. If regulatory requirements should change, the new requirements in effect at the time of the earthwork or construction shall govern.

2.1 REQUIREMENTS PRIOR TO ANY ACTIVITY THAT BREACHES THE ASPHALT CAP

2.1.1 Health and Safety Plan

For any site activity that would disturb soil containing lead at concentrations that exceed the commercial/industrial DTSC-SL of 320 mg/kg, the owner or contractor that will perform such work shall prepare a site- and activity-specific Health and Safety Plan (HASP) prior to breaching the Cap. Those performing the work (owner or contractor) shall comply with the HASP at all times during the work.

The HASP shall comply with all applicable laws and regulations, which may include, but are not limited to the following:

- Standards for hazardous waste operations under federal Occupational Safety and Health Administration (OSHA) (Title 29, Code of Federal Regulations [CFR], §1910.120 [29 CFR 1910.120]) and California OSHA (8 CCR 5192); and
- Proposition 65 (27 CCR 25102 to 27001).

2.1.2 Storm Water Pollution Prevention Plan

A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for any activity that disturbs more than 1 acre by the owner or contractor performing the work prior to breaching the Cap and disturbing impacted soils. Note that the 1-acre threshold is subject to regulatory change; SWPPP applicability shall be controlled by the threshold in effect at the time of the activity. The SWPPP shall be based on appropriate best management practices to minimize pollutants in surface runoff.

During such work, the contractor shall comply with the SWPPP at all times. The SWPPP shall comply with all applicable laws and regulations, which may include, but are not limited to:

- Clean Water Act (United States Code [USC], Title 33, §1251 et seq. [33 USC 1251 et seq.]);
- Porter-Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.);
- National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (State Water Resources Control Board 2012) (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ) or its successor; and
- Any additional Regional Water Quality Control Board or ACDEH requirements.

2.2 REQUIREMENTS RELATING TO THE EXPOSURE OR DISTURBANCE OF SOIL

2.2.1 General Requirements

Any site activity that disturbs soil containing lead at concentrations that exceed the commercial/industrial DTSC-SL shall comply with all applicable laws and

regulations. During any intrusive work, the owner or contractor shall use general health and safety precautions when handling or disturbing soil in accordance with their HASP. The HASP will provide guidance, and at a minimum, describe the use of appropriate personal protective equipment and appropriate decontamination procedures for any intrusive activity. Permits applicable to the type of work being performed must be obtained prior to intrusive work.

The following notifications shall be made for this type of work by the owner or contractor performing the work:

- Prior to all intrusive work, contact Underground Service Alert of Northern California at a minimum, to inquire about potential underground utilities in the project area. A private utility locate survey of the project area is also recommended prior to intrusive work. If a utility conduit is hit or damaged during intrusive activities, it is the responsibility of the contractor doing the work to notify the owner and arrange for repair with the respective utility company.
- Provide ACDEH written notification accompanied by a detailed description of the work to be done along with the dates of the work and a map showing the exact location of the proposed work at least 14 days prior to any proposed modifications/disruptions of the cover. ACDEH approval of the notification is not required.
- Submit any project-specific soil management plan (if required as discussed herein) to ACDEH for review and approval at least 45 days prior to any proposed modifications/disruptions of the cover. As discussed in the LUC recorded against the site, the owner shall be responsible for paying for ACDEH's costs in administering the LUC, including costs for reviewing documents produced to comply with the plan.

2.2.2 Dust Control

Any activity that disturbs soil at the site shall require dust control measures to be implemented to prevent the generation of dust. Such activities shall comply with all applicable laws and regulations that pertain to dust control, including, but not limited to, Bay Area Air Quality Management District (BAAQMD) Regulation 6, Rule 1, and Visible Emission Standards. Several dust control measures may include one or more of the following:

- Applying enough water to prevent off-site migration of dust (methods used include mobile, hand-held hoses, and water trucks);
- Limiting vehicle speeds on unpaved surfaces to 5 miles per hour;

- Using appropriate covers or equivalent dust suppression technologies or techniques on stockpiles; and
- Decontaminating all tires, truck undercarriages, tracks, buckets, and any other heavy equipment that operate in the construction areas before the equipment leaves the site.

One or more of the above-mentioned dust control measures should be implemented as required or necessary, depending on the activity performed. Additional dust control measures may be required by the BAAQMD or may be otherwise needed to adequately limit dust emissions from the site area, especially if high winds persist during earthwork activities.

2.3 REQUIREMENTS FOR SOIL STOCKPILE MANAGEMENT

Excavated soil shall be temporarily stockpiled at the site during intrusive activities. The soil shall be handled and protected appropriately to minimize the generation of dust, the potential for sediment runoff, and public access.

2.4 REQUIREMENTS FOR SOIL REUSE

Excavated soil shall be stockpiled as indicated in Section 2.3 and may be considered for reuse. The soil shall be characterized by performing additional chemical testing. If the soil concentrations are below the lead commercial/industrial DTSC-SL (320 mg/kg), and results of leachate tests (Toxicity Characteristic Leaching Procedure [TCLP] and Soluble Threshold Limit Concentration [STLC]) are below 5 milligrams per liter, then the soil can be reused within the Cap Area as shown on Figure 2 if deemed suitable by the owner or contractor. If the soil is deemed unsuitable for reuse, the soil shall be transported and disposed of offsite as described in Section 2.5. All open excavations, trenches, and the like shall be backfilled with approved soil that can be reused or clean imported fill, as described in Section 2.7.

2.5 REQUIREMENTS FOR SOIL TRANSPORT AND DISPOSAL

In the event that site soils to be transported off site, excavated soil shall be managed in accordance with all applicable laws and regulations, including, but not limited to, the following:

- Solid Waste Disposal Act (42 USC 6901 et seq.); and

- Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5, §25100 et seq.).

In particular, these laws and regulations define the limits of soil lead concentrations that can be accepted by a disposal facility.

Excavated soils shall not be reused or removed from the site until soil characterization has been performed. The specific testing requirements (sample frequency and type of laboratory analyses) shall be determined by consulting with the disposal facility. The samples shall be submitted for one or more, but not limited to, the following typical analyses:

- Total petroleum hydrocarbon (TPH) as gasoline, diesel, and motor oil by United States Environmental Protection Agency (USEPA) Method 8015M;
- Polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270-SIM;
- Volatile organic compounds (VOCs) by USEPA Method 8260B; and
- Metals, including lead, by USEPA Methods 6010/7000.

The contractor shall determine the transportation and disposal requirements that apply to the waste generated by the construction activities. ACDEH requirements include, but are not limited to, the following laws, regulations, and other requirements:

- Labeling requirements under 29 CFR 1910.1001(j)(2), 29 CFR 1926.1101(k)(8), and 8 CCR 5208(j)(5);
- 22 CCR Division 4.5, §66250 et seq., including requirements for identifying, managing, containing, labeling, transporting, and disposing of hazardous waste;
- Use of a registered hazardous waste transporter; and
- Transport, accompanied by a hazardous waste manifest, to a hazardous waste treatment, storage, or disposal facility permitted to accept the type of waste generated by the contractor's activities.

2.6 REQUIREMENTS FOR HANDLING GROUNDWATER

In the event that dewatering needs to be conducted within the site to perform excavation activities, extracted groundwater shall be managed in accordance with all applicable laws and regulations, including, but not limited to, the following:

- Clean Water Act (33 USC 1251 et seq.);

- Porter-Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.);
- Regional Water Quality Control Board waste discharge permit requirements; and
- Publicly Owned Treatment Works pretreatment requirements.

Procedures related to the removal, storage, and characterization of standing water generated from the excavation during construction or maintenance activities shall be determined before excavation activities begin. Pumped water shall not be reused or removed from the site until the extracted groundwater has been tested and characterized. The specific testing and characterization requirements shall be determined by consulting with the disposal facility. The samples will be submitted for one or more of, but not limited to, the following typical analyses:

- TPH as gasoline, diesel, and motor oil by USEPA Method 8015M;
- PAHs by USEPA Method 8270-SIM;
- VOCs by USEPA Method 8260B; and
- Metals, including lead, by USEPA Methods 6010/7000.

All necessary permits shall be obtained before any groundwater is disposed of to the sewer system. Specific testing and sampling requirements shall be adhered to.

Groundwater beneath and upgradient of the site has undergone long-term groundwater monitoring. The contractor shall evaluate groundwater for the potential presence of TPH, VOCs, PAHs, and metals, as well as other hazardous compounds before excavating to the depth where groundwater may be encountered. The contractor has the responsibility to determine whether there may be impacted groundwater near areas of planned construction activities. Groundwater impacts noted at the site were low concentrations of TPH and chlorobenzenes migrating from one or more upgradient source. Lead was not detected in any groundwater samples. With ACDEH approval, all groundwater monitoring wells on the Site were decommissioned in 2014 and 2015.

2.7 REQUIREMENTS FOR SOIL TO BE IMPORTED

All imported soil shall be managed in compliance with all applicable laws and regulations. Quality control measures provided in California Department of

Toxic Substances Control's *Clean Imported Fill Material* guidance (DTSC 2001), or its successor, shall be followed.

2.8 REQUIREMENTS FOR RESTORING THE ASPHALT CAP AFTER SOIL-DISTURBING WORK IS COMPLETED

The contractor shall restore the Cap in compliance with all applicable laws and regulations as soon as practicable after completion of the soil-disturbing work. A cap must be maintained at the site in accordance with this plan; however, the types of cap may be changed as long as they are approved by ACDEH and compliant with all applicable laws and regulations, which may include, but are not limited to, BAAQMD requirements specified in other BAAQMD communications.

The contractor shall provide notification to ACDEH within 45 days after completion of modifications/repairs to the Cap in an Intrusive Work Completion Report that summarizes all intrusive work and that certifies that the Cap was restored to specified design requirements. The content of this report is discussed in Section 3.3.3.

2.9 REQUIREMENTS FOR SITE ACCESS

Access to the site shall be provided by the owner (and any tenant of owner) at all reasonable times to ACDEH, utility company representatives investigating known or damaged utilities, site consultants, and cap maintenance contractors.

Access to areas where soil is handled and/or disturbed shall be controlled by the use of caution tape, cones, fencing, or other precautionary methods to prevent public access.

2.10 REQUIREMENTS FOR REPORTING AFTER WORK IS COMPLETED

Work activities that involve contact with impacted soils will be documented in a Completion Report prepared and signed by the contractor. The report will include the following information:

- Dates work performed;
- Work location, with maps and figures;
- Work activities performed, including restoration of cap systems;

- Work practices taken to prevent potential exposures;
- Variance of or modifications to (if any) to the project-specific approved soil management plan (if warranted) or to this SMP if a project-specific soil management plan is not required;
- Photographs of final restored site conditions; and
- Summary of finished site conditions.

Additional report content may be specified by ACDEH or identified in the SMP. The Completion Report will be submitted within 45 days of completion of the intrusive work.

3.0 OPERATION AND MAINTENANCE PLAN

This section describes the requirements for inspecting and maintaining the asphalt Cap at the site.

3.1 ASPHALT CAP INSPECTIONS

3.1.1 Routine Cap Inspections

The asphalt Cap shall be inspected annually each spring, no later than the end of June. Inspections shall be conducted under the direction of a licensed Civil Engineer (Civil Professional Engineer [P.E.]).

ACDEH shall be notified at least 2 days in advance of each inspection. The cap inspection shall consist of a walking survey of the entire Cap system (i.e., Cap Area and surface water drainage features) and documenting Cap conditions using the Routine Cap System Inspection Form supplied in Appendix A. The form includes the following sections:

- Part 1 – routine inspections of asphalt Cap; and
- Part 2 – routine inspections of surface water control systems.

Parts 1 and 2 of the form shall be completely filled out during each inspection. The completed form shall be submitted to the owner after each inspection, and included in the Annual Inspection Summary Report as an attachment.

Any evidence of damage, failure, or disturbance of the Cap shall be documented (including the width, length, and location of any cracks or breaches in the asphalt Cap) by the inspector of the forms and in photographs. The inspector shall evaluate surface water drainage structures and areas that channel surface water runoff at the site (e.g., ditches, slope edges). Each inspection will ensure that the structures remain free of damage and obstructions, are providing adequate runoff, and do not have excessive erosion.

Each inspection will include a general evaluation as to whether the cap system currently performs its intended function of preventing human exposure to soil exceeding the commercial/industrial DTSC-SL for lead. If the Civil P.E. overseeing the inspections believes the Cap is not performing effectively as intended, appropriate corrective actions (see Section 3.2) must be implemented.

3.1.2 Cap Inspections Following Unplanned Events

Immediate and appropriate action will be taken to prevent, abate, or minimize an emergency related to any action or occurrence such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by a release or threatened release of hazardous substances at the site. The owner will notify ACDEH within 24 hours of any such occurrence. The need for action will be identified by inspecting the Cap after an unplanned event that has the potential to impact the cap integrity or based on a report of damage observed by persons at the site. Inspections shall be conducted under the direction of a Civil P.E. and documented on the Emergency Response Cap System Inspection Form supplied in Appendix B. Portions of this form apply to the asphalt Cap, as noted in the form. Form B shall be completely filled out during each inspection conducted to assess damage due to such unplanned events and submitted to the owner after each inspection. The following describes the timeframes for inspections, repairs, and reporting that the owner anticipates being able to achieve under most circumstances. However, if the unplanned event is significant, inspections and repairs may be delayed; in which case, they will be conducted as soon as reasonably possible.

The owner will take appropriate action in consultation with ACDEH and the inspector, and in accordance with the applicable provisions of the site LUC. A report describing the events that occurred and response measures will be submitted to ACDEH within 14 days of the event.

In the event of an earthquake event of 6.0 or greater, the inspector will visually inspect the cap system for signs of damage as soon as it is safe and practical to conduct the inspection. The closest fault to the site is the San Andreas Fault, which is 24.5 miles away. The estimated Maximum Credible Earthquake on the San Andreas Fault corresponds to a value of 8+ on the Richter scale.

In the event of a flood or major storm, the cap system will be inspected under the direction of a Civil P.E. to ensure the Cap's integrity within 72 hours of the event. The inspector shall document his/her observations on the form included in Appendix B. For the purpose of this O&M Plan, a major storm is defined as a storm with a 25-year return period (>4.07 inches) of precipitation or more over a 24-hour period.

In the event of a surface fire on or near the Cap, the inspector will inspect the cap system and document his/her observations on the form included in Appendix B as soon as it is safe and practical to conduct the inspection.

3.2 CAP MAINTENANCE AND REPAIRS

This section describes the typical maintenance and repairs that will be conducted on the Cap at the site. If the inspector identifies areas of the Cap that are significantly damaged or disturbed such that the integrity of the Cap is affected, the owner will repair the damage the inspection and provide ACDEH with a description of the measures implemented to correct the problem in the Annual Inspection Summary Report (Section 3.3.1).

3.2.1 Asphalt Cap

The Cap will be maintained in a manner that ensures its intended function: prevent exposure to impacted soils. Examples of maintenance include sealing of cracks, patching of potholes, and re-grading to ensure appropriate surface water drainage.

Repairs will be made in accordance with the Cap design specifications established in the CACR. Under no circumstances will the Cap remain in disrepair more than 45 days after discovery of damage, unless authorized by ACDEH. Any major repair that requires significant disturbance of the Cap shall be performed in accordance with the soil management requirements described in Section 2, unless the requirements provided in Section 2 are not adequate for the project; in which case, repairs shall be performed in accordance with a project-specific Soil Management Plan approved by ACDEH (Section 2.2.1). A significant disturbance is defined as a repair that involves excavation to 0.5 foot or more below grade.

The asphalt Cap is expected to require periodic resealing every 5 years and repaving every 10 years. These frequencies may be modified as recommended by the Civil P.E. providing inspection oversight or by the paving contractor. The overlay thickness of the asphalt Cap will be consistent with the thickness specified in the CACR, or based on requirements related to site activities. Surface water drainage features shown in Figures 2 and 3 shall be maintained, including sloping of the surface towards these features.

3.2.2 Surface Water Drainage System

Typical maintenance will include removal of debris, silt, or other obstructions from the surface water drainage system.

3.3 REPORTING

3.3.1 Annual Reporting

The routine inspection findings documented in the inspection forms (Appendix A) will be summarized in an Annual Inspection Summary Report. The summary report will be submitted for ACDEH review and approval by 31 January following the annual reporting period and will cover the activities conducted within the calendar year reporting period (1 January through 31 December).

Annual Inspection Summary Reports will summarize the findings of routine inspections, and will document completions, delays, or failures to repair any items identified as needing repairs. The Annual Inspection Summary Report will be signed by the contractor.

Annual Inspection Summary Reports will include the following content:

- Results of the visual inspections and any supporting data;
- Description of actions taken during the reporting period, including any repairs to the Cap that were identified and carried out;
- Description of any significant changes in site conditions and usage;
- Description of any additional on-site construction or other information that may relate to the Cap or impact Cap function;
- Description of actions planned or expected to be undertaken in the next year that will impact the Cap;
- Conclusions regarding the ongoing effectiveness of the Cap;
- Description of any maintenance or repairs identified as needed during the inspection;
- Recommendations for plan modifications;
- Copies of signed inspection forms completed during the reporting period; and
- Copies of workplans and Completion Reports for any intrusive work conducted during the reporting period, if not previously submitted and approved by ACDEH.

3.3.2 Five-Year Review Reporting

A 5-year review will be conducted every 5 years and will be used to recommend continued implementation of this plan, or appropriate modifications. Inspections conducted for the 5-year reviews shall follow the same format as the annual inspections and shall be conducted under the direction of a Civil P.E.

The 5-Year Review Report will include the following:

- Identification of any incidents or problems with the Cap systems, and evaluation of system performance, effectiveness, and protectiveness.
- A technical assessment and evaluation of the ongoing protectiveness of the remedy. This evaluation will address the following questions:
  - Is the remedy functioning as intended by the remedy selection decision documents?
  - Are the removal action objectives, goals, and criteria used at the time of remedy selection still valid?
  - Are any modifications needed to make the O&M Plan more effective?
- Conclusions and recommendations for any changes needed to maintain remedy protectiveness.

The owner is responsible for responding to recommendations made in the 5-Year Review Report and any additional requirements identified by ACDEH. The owner is responsible for follow-up review to ensure that identified repairs are completed on schedule, and will sign-off on the completion blocks of the report.

3.3.3 Reporting on Intrusive Work Activities

ACDEH shall be notified prior to any activities that disturb impacted soils beneath the Cap. Notifications for this type of work are discussed in Sections 2.2.1 and 2.8. Requirements for reporting after the work is completed are discussed in Section 2.10.

4.0 ADMINISTRATIVE PROVISIONS

The LUC recorded against the site includes this SMP as an attachment and includes administrative provisions. In addition, the administrative provisions included in this section shall be followed.

4.1 FUTURE OWNERS OR TENANTS

All purchasers, lessees, or possessors of any portion of the site shall be subject to the O&M Plan/SMP requirements and shall notify ACDEH and PG&E of the purchase, lease, or sale of any portion of the site. Whenever planned work involves a potential breach to the Cap, owners shall communicate the soil management requirements to the individuals overseeing and engaged in the work activity. This obligation to communicate the O&M Plan/soil management requirements applies to the owner and the owner's agents, representatives, contractors, employees, tenants, and licensees.

All notifications to ACDEH shall be made to the following person:

Dilan Roe (email: dilan.row@acgov.org)
Alameda County Department of Environmental Health
Division of Environmental Protection
1131 Harbor Way Parkway, 2nd Floor
Alameda, CA 94502-6577

All notifications to PG&E shall be made to the following person:

Ben LePage (email: balo@pge.com)
Manager, Environmental Remediation
Pacific Gas and Electric Company
3401 Crow Canyon Road
San Ramon, California 94583

4.2 MODIFICATIONS

ACDEH, PG&E, or any future owner of the property that includes any portion of the site may instigate a revision to this plan, including the soil management requirements. The revised plan would be subject to review and approval by ACDEH.

5.0 REFERENCES

AMEC. 2012. *Corrective Action Plan*, *PG&E Oakland General Construction Yard*, *4930 Coliseum Way*, *Oakland*, *California*. 2 July.

California Code of Regulations (CCR), Title 8, §1529. Accessed July 2013. http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000.

CCR, Title 8, §5192. Accessed July 2013. http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000.

CCR, Title 8, §5208(j)(5). Accessed July 2013. http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000.

CCR, Title 22, Division 4.5, §66250 et seq. Accessed July 2013. http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000.

CCR, Title 27, Division 4, Chapter 1, §25102 to §27001. Accessed July 2013. http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000.

California Health and Safety Code, Division 20, Chapter 6.5, §25100 et seq. Accessed July 2013. *Hazardous Waste Control Law*. http://codes.lp.findlaw.com/cacode/HSC/1/d20/6.5.

California Water Code, Division 7, §13000 et seq. Accessed July 2013. *Porter-Cologne Water Quality Control Act*. http://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf.

Code of Federal Regulations (CFR), Title 29, §1910.120. Accessed July 2013. http://www.gpo.gov/fdsys/pkg/CFR-2012-title29-vol5/pdf/CFR-2012-title29-vol5-sec1910-120.pdf.

CFR, Title 29, §1910.1001(j)(2). Accessed July 2013. http://www.gpo.gov/fdsys/pkg/CFR-2012-title29-vol6/pdf/CFR-2012-title29-vol6-sec1910-1001.pdf.

CFR, Title 29, §1926.1101(k)(8). Accessed July 2013. http://www.gpo.gov/fdsys/pkg/CFR-2012-title29-vol8/pdf/CFR-2012-title29-vol8-sec1926-1101.pdf.

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 2001. Fact Sheet*: Information Advisory, Clean Imported Fill*

Material. October. www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf. Accessed 5 June 2012.

ERM-West, Inc. (ERM). 2016a. *Corrective Action Implementation Workplan. Pacific Gas and Electric Company, Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California.* 13 January 2016.

ERM. 2016b. *Level 3 Site-Specific Health and Safety Plan. Pacific Gas and Electric Company Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California.* July 2016.

ERM. 2016c. *Corrective Action Completion Report. Pacific Gas and Electric Company, Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California.* November 2016.

ETIC Engineering, Inc. 2015. December 2015 Asphaltic Concrete Cap Inspection Report. *Pacific Gas and Electric Company Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California.* 11 January 2015.

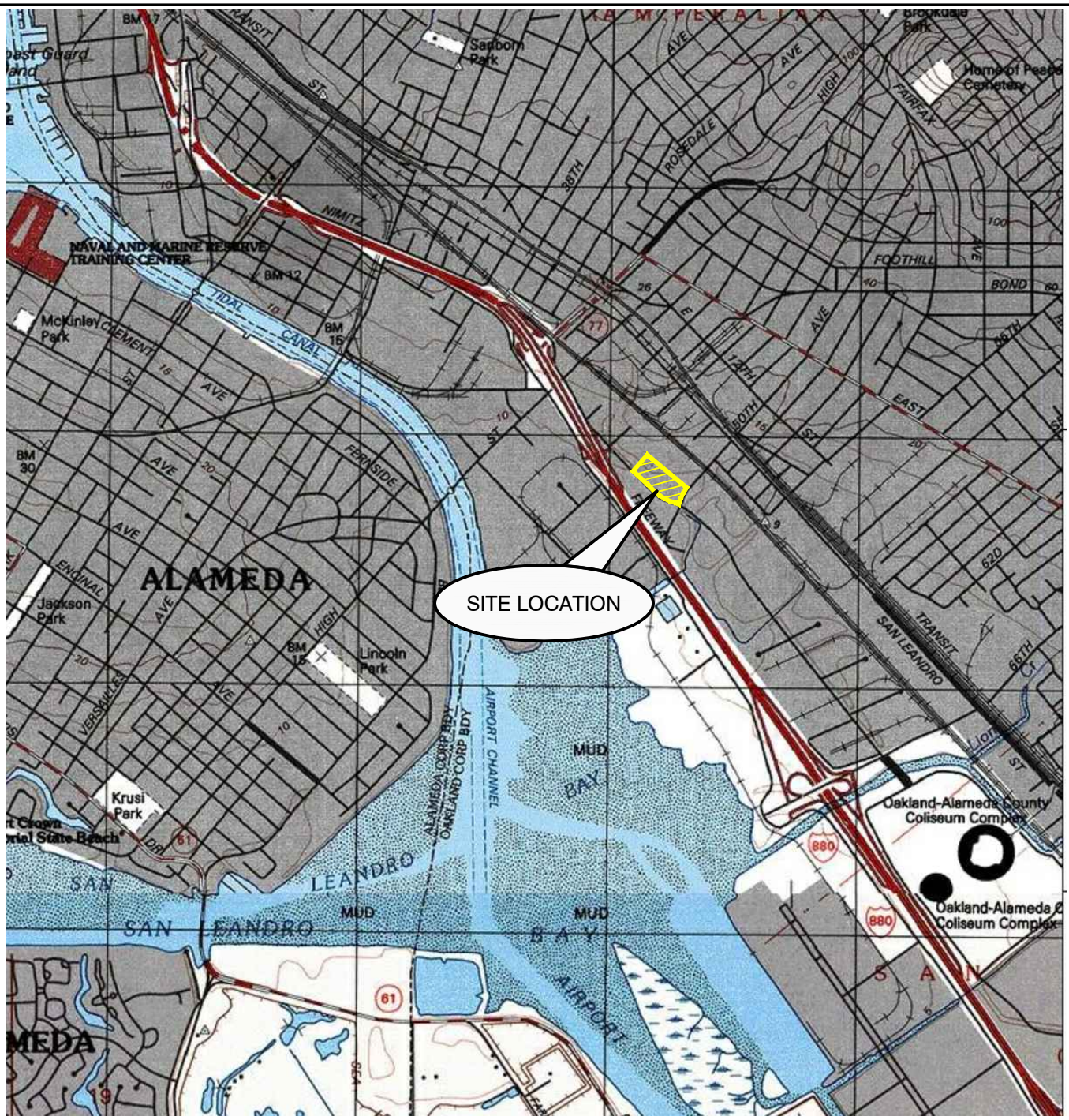
Office of Environmental Health Hazard Assessment. 2010. *California Human Health Screening Levels – Soil Screening Levels.* California Environmental Protection Agency.

State Water Resources Control Board. 2012. *NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*. Order No. 2009-0009–DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. No. CAS000002. 17 July.

United States Code (USC), Title 33, §1251 et seq. Accessed July 2013. *Clean Water Act*. http://uscode.house.gov/download/pls/33C26.txt.

USC, Title 42, §6901 et seq. Accessed July 2013. *Solid Waste Disposal Act*. http://uscode.house.gov/download/pls/42C82.txt.

Figures



SCALE 1: 24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

N

References:
TOPO!® Software
U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle,
Oakland East, California,
Dated 1997

Figure 1

Site Location Map
Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Environmental Resources Management
www.erm.com
ERM

J. Estrada 11/01/2016. 0313775.05 G:\DWGS\0313775 Oakland Gen Construction Yard\05\0313775-05-01.dwg

FORMER AAA PROPERTY

CHAIN LINK FENCE

FORMER WELDING SHOP

FORMER SUMP

FORMER UST CLUSTER LOCATION

STORAGE

STORAGE SHED

STORAGE CONTAINERS

LOCATION OF FORMER GAS HOLDER TANK REMOVED IN MAY 1990

STORAGE AREA

CONTAINERS AND STORAGE

BRICK BUILDING

OFFICE

50TH AVENUE

SITE FENCE

FORMER SUPERIOR PLASTER CASTING PROPERTY

STORAGE

OFFICE

CONCRETE RETAINING WALL, CHAIN LINK FENCE, AND CONCRETE CHANNEL

FORMER DIESEL UST LOCATION

TRAILERS

GATE

COLISEUM WAY

SD

LEGEND

- EXTENT OF ASPHALTIC CONCRETE CAP
- ORIGINAL CAP BOUNDARY
- TEMPORARY CHAIN LINK FENCE POST LOCATIONS BENEATH ASPHALT CAP
- SD — UNDERGROUND STORM SEWER DRAINAGE PIPE
- SURVEY MARKER PLACED AT CENTER OF FORMER GAS HOLDER TANK
- AREAS OF FORMER ASPHALT CAP REMAINING
- AREAS SLURRY SEALED
- FINAL RESTORATION ASPHALT CAP - 4" THICK
- FINAL RESTORATION ASPHALT CAP - 3" THICK
- AREA OF 0.5-2 INCH OF ASPHALT ADDITION OVER EXISTING ASPHALT - 6" THICK
- CONCRETE SLAB/PAD
- CONCRETE PAD BENEATH ASPHALT

Note: This area is not included in the cap.

N

0 25 50

FEET

NOTE:
Basemap provided by ETIC.

Figure 2

Final Restoration As-Built
Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Environmental Resources Management
www.erm.com
ERM

J. Estrada 12/15/2016 03137775.07.07 G:\DWGS\03137775 Oakland Gen Construction Yard\07\07\03137750707-10.dwg

NOTE:
Survey drawing provided by San Benito Engineering & Surveying , Inc.; File name, 116048.dwg, 16 August 2016

Figure 3

Site Survey As-Built
Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Environmental Resources Management
www.erm.com
ERM

J. Estrada 12/06/2016 0313775.07.07 G:\DWGS\0313775 Oakland Gen Construction Yard\07\0703137750707-08.dwg

Appendix A
Routine Cap System
Inspection Form

FORM A: ROUTINE CAP SYSTEM INSPECTION FORM

PG&E Oakland General Construction Yard **O&M INSPECTION**
4930 Coliseum Way, Oakland, CA

Inspector Information	Date/Time:
Inspector Name:	Project No.:
Company:	Weather:
Address:	
Phone:	
Email:	

PART 1: ASPHALT CAP INSPECTION

Are there cracks (longitudinal or alligator) in the asphalt cap? If yes, describe width, length, and location. Do the cracks extend through the subgrade? ☐ **Yes** ☐ **No**
Comments:

Are there noticeable depressions, ponding of surface water, or evidence of ponding on the cap? ☐ **Yes** ☐ **No**
Comments:

Are there any signs of asphalt raveling, seal failure, or evidence of slope failure? ☐ **Yes** ☐ **No**
Comments:

Are there any signs of distress limited to aging, potholes, inadequate surface friction in the upper 2-3 inches of pavement? ☐ **Yes** ☐ **No**
Comments:

Is there evidence of excessive or uneven settlement of the asphalt cap? ☐ **Yes** ☐ **No**
Comments:

Is there evidence of base or subgrade failure, or a weak underlying layer? ☐ **Yes** ☐ **No**
Comments:

Is there evidence of erosion or damage associated with surface water control system? ☐ **Yes** ☐ **No**
Comments:

FORM A: ROUTINE CAP SYSTEM INSPECTION FORM

PG&E Oakland General Construction Yard **Date:**

PART 1: ASPHALT CAP INSPECTION (CONT.)	
Are there areas of invasive vegetation on the asphalt cap? Comments:	☐ **Yes** ☐ **No**
Have invasive species taken root on the cap? Comments:	☐ **Yes** ☐ **No**
Insert question…. Comments:	☐ **Yes** ☐ **No**
Insert question…. Comments:	☐ **Yes** ☐ **No**
Is there any other evidence of cap system damage or failure? Comments:	☐ **Yes** ☐ **No**
Additional Notes:	

FORM A: ROUTINE COVER SYSTEM INSPECTION FORM

PG&E General Construction Yard **Date:**

PART 2: FENCING AND SURFACE WATER CONTROL SYSTEM	
Is the perimeter fencing intact and in good condition? Comments:	☐ **Yes** ☐ **No**
Is there excessive debris, silt, or other deleterious material obstructing flow through the surface water control system? Comments:	☐ **Yes** ☐ **No**
Insert question…. Comments:	☐ **Yes** ☐ **No**
Is there evidence of erosional damage of the asphalt cover system? Comments:	☐ **Yes** ☐ **No**
Is there any evidence of the asphalt pulling away from the curb, gutters, or drain slot? Comments:	☐ **Yes** ☐ **No**
Insert question…. Comments:	☐ **Yes** ☐ **No**
Additional Notes:	

Appendix B
Emergency Response Cap System
Inspection Form

FORM B: EMERGENCY RESPONSE ASPHALT CAP SYSTEM INSPECTION FORM

PG&E Oakland General Construction Yard **O&M INSPECTION**
4930 Coliseum Way, Oakland, CA

Inspector Information	Date/Time:
Inspector Name:	Project No.:
Company:	Weather:
Address:	
Phone:	
Email:	

What type of emergency? ☐ **Earthquake** ☐ **Flood/Storm** ☐ **Fire/Explosion** ☐ **Other**
Comments:

Are there large cracks in the asphalt cap? ☐ **Yes** ☐ **No**
Comments:

Are there cracks in the asphalt cap? If yes, include width, length, and location. ☐ **Yes** ☐ **No**
Comments:

Is there bulging or buckling of the asphalt cap? ☐ **Yes** ☐ **No**
Comments:

Are there noticeable depressions or ponding of surface water on the cap? ☐ **Yes** ☐ **No**
Comments:

Is there excessive debris, silt, or other deleterious material obstructing flow through the surface water control system? ☐ **Yes** ☐ **No**
Comments:

Are there any signs of sliding or sloughing of the soil, gravel, or asphalt layer which might indicate slope failure? ☐ **Yes** ☐ **No**
Comments:

Is there any other evidence of soil/gravel or asphalt cap damage or failure? ☐ **Yes** ☐ **No**
Comments:

Additional Notes: ☐ **Yes** ☐ **No**

Inspector Signature: