MARITIME ENVIRONMENTAL HEALTH AND SAFETY PLAN FOR SHALLOW EXCAVATIONS

For

Port Facilities Staff and Port Contractors

February 2009

Port of Oakland
530 Water Street
Oakland, CA 94607

TABLE OF CONTENTS

page

Table of Contents – *continued* *page*

APPENDICES

FIGURES

TABLES

SIGNATURE PAGE

This Environmental Health and Safety Plan has been prepared in accordance with Title 29 CFR Part 1926 - Health and Safety Regulations for Construction as well as a guide to performing work activities in a manner that reduces the probability of employee overexposure to chemical and physical hazards found in the shallow subsurface soils within the Maritime Area of the Port of Oakland ("Port"). Shallow subsurface soils in this document are defined as the soil above the first encountered groundwater surface.

The professional opinions provided herein are based on the undersigned's review and current understanding of condition in the Maritime Area.

_____ _____

Jeff Jones, M.S. CIH Date
Certified Industrial Hygienist # CP 3419

ADMINISTRATIVE REVISIONS

The following is a list of administrative addenda implemented by the Port. Administrative addenda include changes to phone numbers, personnel, or referenced site location identification procedures. Administrative addenda do not require review by a Certified Industrial Hygienist ("CIH"). Technical revisions to the document require review and stamp by a CIH.

Addendum Number	Author	Date	Training Date	Reason for Change

1. INTRODUCTION

This Environmental Health and Safety Plan ("EH&SP") has been prepared to address shallow excavation work by Port of Oakland ("Port") Facilities Staff and Port Contractors within the Maritime Area at the Port. The Port's Maritime Area is located within the City of Oakland in Alameda County (Figure 1).

1.1 Scope and Purpose of the EH&SP

This EH&SP is applicable to construction and maintenance activities that will occur within the Maritime Area at the Port. This EH&SP establishes the policies and procedures to be used by Port Facilities Staff and Port contractors for the performance of the construction or maintenance activities that involve shallow excavation. These policies and procedures are intended to protect the worker and the public from potential health and safety hazards posed by possible contamination in the shallow excavation soils. For the purpose of this document, shallow excavation soil is defined as the soil from ground surface to the first encountered groundwater. All work will be conducted in a manner that minimizes the probability of injury, illness, property damage, or damage to the environment and will be performed in accordance with the Port's Injury and Illness Prevention Program ("IIPP") (Port, 2005 or most recent) and Port Safety Manual (Port, 2003 or most recent).

The Maritime Area contains four sites that are regulated by local or state agencies, and which have special health and safety requirements not considered in this document. These sites are known as:

- **Howard Terminal at Berths 67 and 68**
- **The Mobil Terminal Site on Berth 24,**
- **The Former McGuire Chemical Company Leasehold on Berths 25 and 26, and**
- **The Former Oakland Army Base.**

This EH&SP does not apply to these sites. This EH&SP also does not cover excavation work where groundwater is encountered.

1.1.1 Maritime Area

The Port's Maritime Area is bounded approximately by the Oakland Inner Harbor to the south, Oakland Outer Harbor to the west, Interstate 880 and West Grand Avenue to the north, and Interstate 880 and Embarcadero West to the east (Figure 1). The Maritime Area is zoned by the City of Oakland for industrial and transportation land use and contains the Port's shipping berths, the Burlington Northern Santa Fe intermodal yards, the Former Oakland Army Base, and miscellaneous transportation-related Port tenants.

MARITIME AREA

Figure 1

Legend

Maritime Area

0 2300 Feet

BASELINE

Maritime Environmental Health and Safety Plan
for Shallow Excavation Work
Port of Oakland, California

Y5395-06.00848.Fig1.dwg 2/9/09

1.1.2 Summary of Possible Environmental Hazards

The soil within some areas of the Maritime Area may contain chemicals or chemical compounds that have the potential to adversely affect the health of the workers. Port Facilities Staff and Port Contractors should be aware that at any project involving excavation work, unexpected chemicals of concern ("COCs") in the soil might be encountered.

In general, the COCs most likely to be encountered within the Maritime Area are petroleum hydrocarbons (primarily in the diesel or motor oil range), metals (such as lead), volatile organic compounds ("VOCs"), semi-volatile organic compounds ("SVOCs"), and/or pesticides.

The principle chemical hazards to construction workers posed by soil are from direct contact, ingestion of soil, inhalation of dust containing COCs, or from inhalation of vapors from VOCs. This EH&SP describes the work procedures to minimize the exposure to soil and to prevent the release of hazardous substances during excavation work.

1.2 Key Personnel – Health and Safety Responsibilities

The organizational structure part of this plan establishes the specific chain of command and specifies the overall responsibilities of supervisors and employees. The organizational structure will be reviewed and updated as necessary to reflect the status of Project operations. Key Project Personnel, their responsibilities, and contact information are summarized below in Table 1.

Table 1: Key Project Personnel

Position	Name	Telephone	Cell
Harbor Facilities Maintenance Manager	Ted Mankowski	(510) 627-1500	(510) 719-8033
Site Supervisor	Dave Cuthbertson (Utilities Supervisor)	(510) 627-1413	(510) 719-7986
	Bill Morrison (Construction and Maintenance Supervisor)	(510) 627-1495	(510) 773-9981
Site Safety Officers	Mike Ringborn	(510) 627-1651	(510) 719-7826
	Mitch Segal	(510) 627-1402	(510) 773-9985
	Ernie Richmond (alternate)	(510) 627-1602	(510) 773-9964
	Bill Edwards	(510) 627-1415	(510) 719-7997
	Kenny Taylor	(510) 627-1424	(510) 773-7001
	Lawrence Dirksen (primarily for railroad and ballast operations)	(510) 627-1653	(510) 773-9977
Port Safety Officer	Jeff Jones	(510) 627-1360	(510) 773-9988
	Desmond DeMoss	(510) 627-1469	(510) 773-9991

1.2.1 Harbor Facilities Maintenance Manager

The Harbor Facilities Maintenance Manager ("Manager") is responsible for the on-time, on-budget completion of the individual maintenance projects involving excavations. The Manager

is the main contact for the Port, and is responsible for budgeting and providing the necessary safety facilities, equipment, and funding.

1.2.2 Site Supervisor (Port Supervisor or Designee)

The Site Supervisors are assigned to each specific job site and are responsible for health and safety. The Site Supervisors report to upper level management, which includes reporting specific safety concerns to Port Safety Officers. The Site Supervisors are expected to:

- Manage field operations;
- Use the Site Safety Officer to help implement the safety and health requirements;
- Remain informed about company safety and health policies and programs affecting the job site;
- Provide job-specific safety and health training to employees under his or her supervision;
- Ensure that each employee is able to safely complete each task to which he or she is assigned, and that equipment and machinery are maintained in safe operating condition;
- Conduct inspections at the job site to identify hazardous conditions and work practices;
- Investigate reported accidents and near-accidents, and implement corrective actions;
- Report to the Port Safety Officer any known or potentially unsafe or unhealthful condition, including those identified by employees under their supervision, which they cannot immediately correct or for which they require assistance in correcting;
- Select and periodically inspect protective clothing and equipment condition, use, storage and maintenance;
- Control entry and exit from the Site;
- Implement the EH&SP;
- Understand emergency procedures;
- Notify, when necessary, local public emergency officials;
- Coordinate emergency medical care;
- Monitor work parties for signs of heat stress and fatigue (CCR Title 8 Industrial Relations, Sec 3395, Heat Illness Prevention);
- Monitor onsite hazards and conditions; and
- Enforce the "buddy system".

1.2.3 Site Safety Officer (Port Supervisor or Designee)

The Site Safety Officer (“SSO”) advises the Site Supervisor on all aspects of health and safety at the Site, and can stop work if any operation threatens worker or public health or safety. He or she is expected to:

- Implement the EH&SP;

- Coordinate health and safety activities with the Port's Safety Officer and Site Supervisor; and
- Conduct periodic inspections to determine if the EH&SP is being followed.

1.2.4 Port Safety Officer

The Port Safety Officer is responsible for overall company compliance with the IIPP and the Port Safety Manual. The Port Safety Officer is responsible for ensuring the overall implementation of the IIPP by directing and coordinating the following tasks:

- Identification and evaluation of workplace hazards, including regular inspections to identify unsafe conditions and work practices;
- Development of methods and procedures for correcting and controlling unsafe and unhealthy conditions, work practices and procedures;
- Employee training and instruction in both general and job-specific health and safety;
- Communication with employees in an understandable manner regarding matters relating to occupational health and safety;
- Ensuring employee compliance with health and safety rules, practices and procedures;
- Investigation of occupational injuries and illnesses, identification of causative factors, and implementation of hazard control actions;
- Development and implementation of safety and health programs related to the IIPP; and
- Maintenance of records for the implementation of the IIPP and related safety and health programs.

1.2.5 Individual Port Facilities Staff and Contractors

Individual Port Facilities Staff and Port Contractors will be trained in this EH&SP, and will either sign a training sign-in log or read and sign this EH&SP. Port Facilities Staff and Contractors are responsible for understanding the provisions of the EH&SP and asking questions about portions which they do not understand. Individual workers are also expected and encouraged to point out to their supervisor any potential health and safety issues that they may observe. Individual Port Facilities Staff and Port Contractors are neither expected nor allowed to perform work in areas requiring training according to the requirements of 29 CFR 1910.120 (HAZWOPER Training). Port Facilities Staff or Port subcontractors who are not trained in the requirements of 29 CFR 1910.120 may not handle potentially hazardous soil.

1.2.6 Site Visitors

Visitors to the Maritime Area, where shallow excavation work in being conducted and who are untrained in this EH&SP, must obtain permission to enter from the Site Safety Officers, and must be under the Site Safety Officer's (or designee's) escort. Visitors without an escort must read and sign this EH&SP. Visitors must coordinate access with the Site Safety Officer to comply with the EH&SP and to receive information on safe practices when working in the vicinity of the heavy equipment.

2. HEALTH AND SAFETY PLAN PROCEDURES

This section outlines the health and safety procedures that will take place during a typical Port project involving shallow excavation work.

2.1 Expected Project Activities within the Scope of this EH&SP

The shallow excavation work activities covered under this EH&SP include, but are not limited to:

- Excavation for utility repair or replacement, shallow foundations, or other structures;
- Soil stockpiling;
- Disconnecting, cutting, and capping of existing utilities;
- Repairing or replacing roads or sidewalks, if work extends below bottom of pavement;
- Landscaping which involves soil excavation or installation of new plants; and
- Projects similar to those described above.

If groundwater or potentially contaminated soil is encountered, work will cease, and the SSO will be contacted to determine whether work can continue or will be performed by others.

2.2 Pre-construction and Field Work Procedures

A flow chart summarizing the pre-construction and fieldwork procedures required by this EH&SP is presented on Figure 2. The procedures are also summarized below.

2.2.1 Pre-construction Procedures

When a need for shallow excavation work within the Maritime Area is identified, the wharfinger or other requestor opens a Maintenance Service Order Request (MSO, sometimes referred to as an MP2), which is then approved by the Harbor Facilities Maintenance Manager and delegated to a Site Supervisor.

Prior to beginning work, the Site Supervisor will verify that the work is not being conducted on one of the following Regulated Sites identified on Figure 3 as having site-specific health and safety requirements:

- **Mobil Terminal Site (Berth 24 and a portion of Berth 23),**
- **Former McGuire Chemical Company Leasehold Site at Berths 25 and 26,**
- **Former Oakland Army Base, and Howard Terminal at Berths 67 and 68, or**
- **Howard Terminal.**

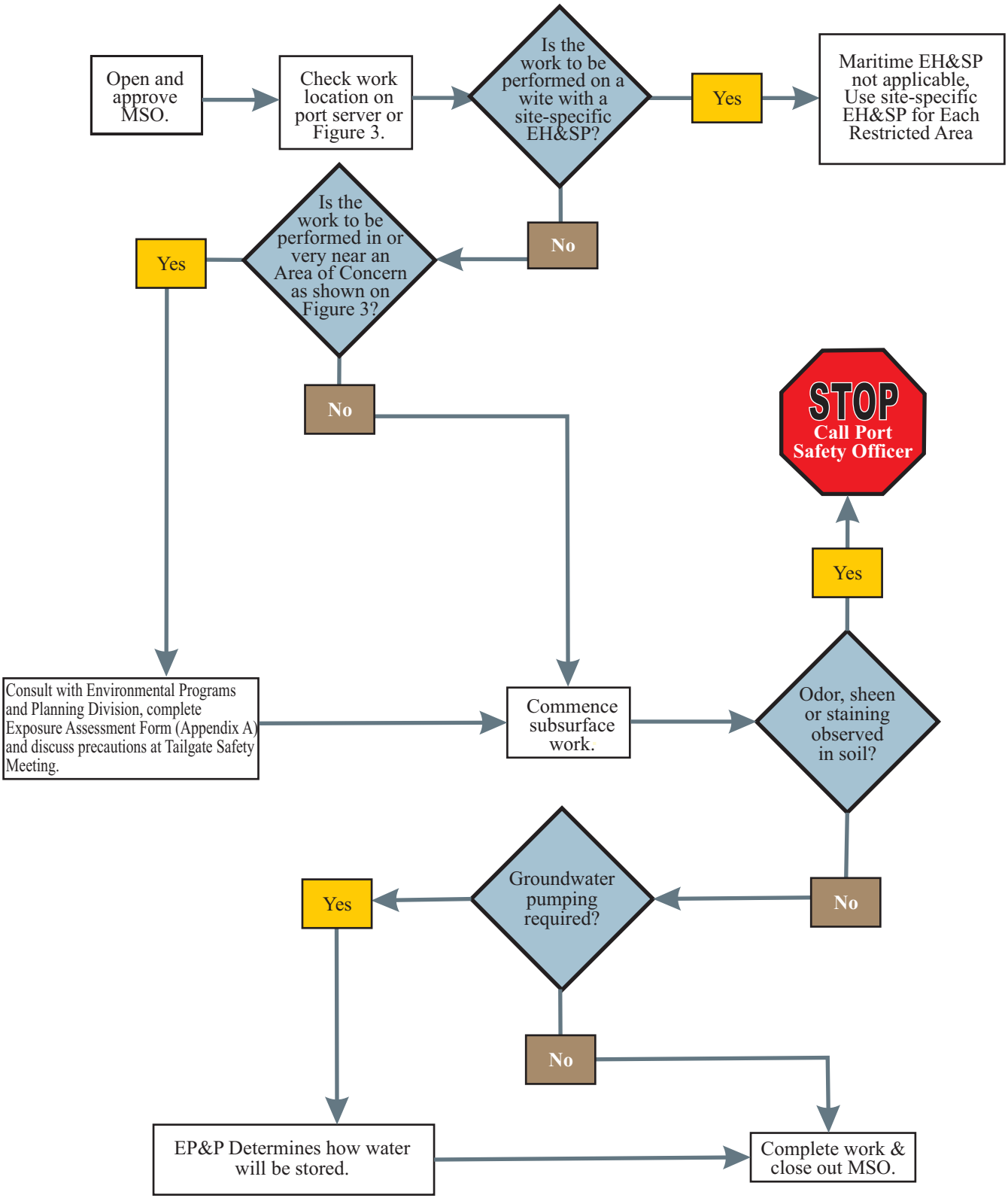
If the work is to be performed at any of these four sites, the work may not be conducted under this EH&SP, but will be performed under the Regulated Site's site-specific health and safety plan.

If the shallow excavation work is located within 20 feet of one of the Regulated Sites shown on Figure 3, the Site Supervisor will contact the Port's Environmental Programs and Planning Division ("EPPD") to determine if the shallow soils pose a danger to workers, based on the

proposed scope of work. If the EPPD determines that the shallow soils do not pose a health risk to workers or if the excavation work is not located within 20 feet of a Regulated Site, the work may be performed by Port Facilities Staff and Port Contractors under this EH&SP.

WORK PROCEDURE FLOWCHART
MARITIME AREA, PORT OF OAKLAND

Figure 2



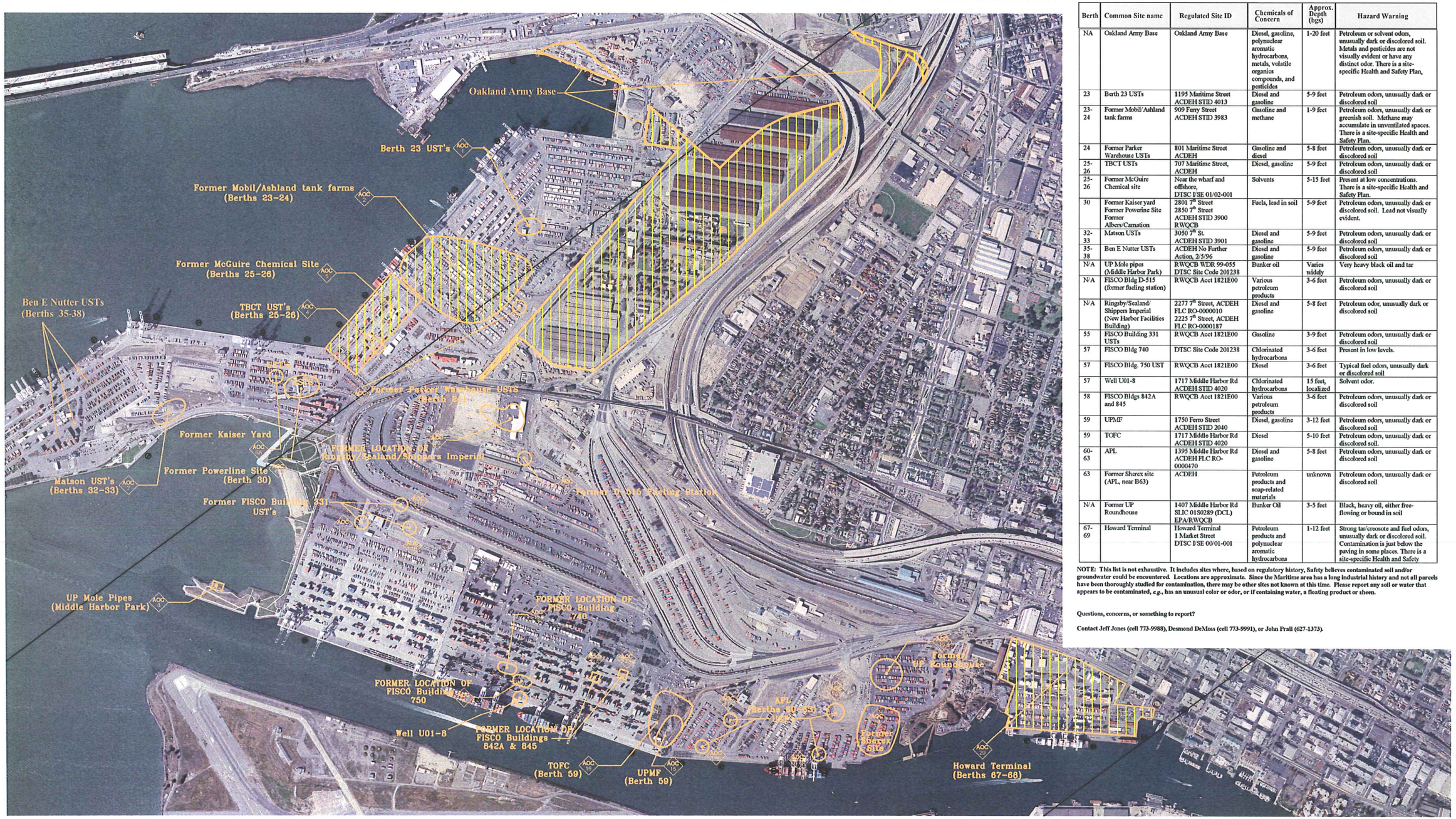
Martime Environment Health and Safety Plan for Shallow Excavation Work Port of Oakland, California

BASELINE

Y5395-06.00848.Fig2.cdr 2/27/09

AREAS REGULATED FOR SIGNIFICANT SOIL AND GROUNDWATER CONTAMINATION

Figure 3



Berth	Common Site name	Regulated Site ID	Chemicals of Concern	Approx. Depth (bgs)	Hazard Warning
NA	Oakland Army Base	Oakland Army Base	Diesel, gasoline, polynuclear aromatic hydrocarbons, metals, volatile organics compounds, and pesticides	1-20 feet	Petroleum or solvent odors, unusually dark or discolored soil. Metals and pesticides are not visually evident or have any distinct odor. There is a site-specific Health and Safety Plan,
23	Berth 23 USTs	1195 Maritime Street ACDEH STID 4013	Diesel and gasoline	5-9 feet	Petroleum odors, unusually dark or discolored soil
23-24	Former Mobil/Ashland tank farms	909 Ferry Street ACDEH STID 3983	Gasoline and methane	1-9 feet	Petroleum odors, unusually dark or greenish soil. Methane may accumulate in unventilated spaces. There is a site-specific Health and Safety Plan.
24	Former Parker Warehouse USTs	801 Maritime Street ACDEH	Gasoline and diesel	5-8 feet	Petroleum odors, unusually dark or discolored soil
25-26	TBCT USTs	707 Maritime Street, ACDEH	Diesel, gasoline	5-9 feet	Petroleum odors, unusually dark or discolored soil
25-26	Former McGuire Chemical site	Near the wharf and offshore, DTSC I/SE 01/02-001	Solvents	5-15 feet	Present at low concentrations. There is a site-specific Health and Safety Plan.
30	Former Kaiser yard Former Powerine Site Former Albers/Carnation	2801 7th Street 2850 7th Street ACDEH STID 3900 RWQCB	Fuels, lead in soil	5-9 feet	Petroleum odors, unusually dark or discolored soil. Lead not visually evident.
32-33	Matson USTs	3050 7th St. ACDEH STID 3901	Diesel and gasoline	5-9 feet	Petroleum odors, unusually dark or discolored soil
35-38	Ben E Nutter USTs	ACDEH No Further Action, 2/5/96	Diesel and gasoline	5-9 feet	Petroleum odors, unusually dark or discolored soil
N/A	UP Mole pipes (Middle Harbor Park)	RWQCB WDR 99-055 DTSC Site Code 201238	Bunker oil	Varies widely	Very heavy black oil and tar
N/A	FISCO Bldg D-515 (former fueling station)	RWQCB Acct 1821E00	Various petroleum products	3-6 feet	Petroleum odors, unusually dark or discolored soil
N/A	Ringsby/Sealand/ Shippers Imperial (New Harbor Facilities Building)	2277 7th Street, ACDEH FLC RO-0000010 2225 7th Street, ACDEH FLC RO-0000187	Diesel and gasoline	5-8 feet	Petroleum odor, unusually dark or discolored soil
55	FISCO Building 331 USTs	RWQCB Acct 1821E00	Gasoline	3-9 feet	Petroleum odors, unusually dark or discolored soil
57	FISCO Bldg 740	DTSC Site Code 201238	Chlorinated hydrocarbons	3-6 feet	Present in low levels.
57	FISCO Bldg. 750 UST	RWQCB Acct 1821E00	Diesel	3-6 feet	Typical fuel odors, unusually dark or discolored soil
57	Well U01-8	1717 Middle Harbor Rd ACDEH STID 4020	Chlorinated hydrocarbons	15 feet, localized	Solvent odor.
58	FISCO Bldgs 842A and 845	RWQCB Acct 1821E00	Various petroleum products	3-6 feet	Petroleum odors, unusually dark or discolored soil
59	UPMF	1750 Ferro Street ACDEH STID 2040	Diesel, gasoline	3-12 feet	Petroleum odors, unusually dark or discolored soil
59	TOFC	1717 Middle Harbor Rd ACDEH STID 4020	Diesel	5-10 feet	Petroleum odors, unusually dark or discolored soil.
60-63	APL	1395 Middle Harbor Rd ACDEH FLC RO-0000470	Diesel and gasoline	5-8 feet	Petroleum odors, unusually dark or discolored soil
63	Former Sherex site (APL, near B63)	ACDEH	Petroleum products and soap-related materials	unknown	Petroleum odors, unusually dark or discolored soil
N/A	Former UP Roundhouse	1407 Middle Harbor Rd SLIC 01S0289 (DCL) EPA/RWQCB	Bunker Oil	3-5 feet	Black, heavy oil, either free-flowing or bound in soil
67-69	Howard Terminal	Howard Terminal 1 Market Street DTSC I/SE 00/01-001	Petroleum products and polynuclear aromatic hydrocarbons	1-12 feet	Strong tar/creosote and fuel odors, unusually dark or discolored soil. Contamination is just below the paving in some places. There is a site-specific Health and Safety

NOTE: This list is not exhaustive. It includes sites where, based on regulatory history, Safety believes contaminated soil and/or groundwater could be encountered. Locations are approximate. Since the Maritime area has a long industrial history and not all parcels have been thoroughly studied for contamination, there may be other sites not known at this time. Please report any soil or water that appears to be contaminated, *e.g.*, has an unusual color or odor, or if containing water, a floating product or sheen.

Questions, concerns, or something to report?

Contact Jeff Jones (cell 773-9988), Desmond DeMoss (cell 773-9991), or John Prall (627-1373).

Maritime Environmental Health and Safety Plan for Shallow Excavation Work Port of Oakland, California

Legend

Sites with Site-Specific Health and Safety Plans (This EH&SP does not apply to these sites)

0 1400 Feet

BASELINE

Y5395-06.0848 Fig3.v1.dwg 2/25/09

2.2.2 Exposure Assessment

Prior to beginning any subsurface work in a Restricted Area or an Area of Concern, as shown in Figure 3, an exposure assessment will be performed by the Port Safety Officer in consultation with the SSO. Information to be considered includes the proposed work location, dates of work, description of the work, and total depth of excavation. The SSO and the Port Safety Officer will review the information provided to determine if there is a potential for worker exposure to hazardous chemicals. The Exposure Assessment Form, provided in Appendix A, will be completed. The Exposure Assessment Form must be signed and dated by the SSO before subsurface work can proceed.

2.2.3 Field Work Procedures for Shallow Excavation Work

Prior to the start of field activities, the Site Supervisor or designee will conduct a Tailgate Safety Meeting. Shallow excavation work will then proceed. If floating product, sheen, odors, or staining are observed during excavation or groundwater is encountered, work will cease until the Site Supervisor or Designee have inspected the work and determined whether the work should continue under this EH&SP. The SSO will also be contacted.

Port Facilities Staff or Port Contractors may identify soil potentially impacted by COCs by visual evidence or detection of chemical odors. Visual evidence may include, but is not limited to, separate-phase hydrocarbons, staining, and debris. The color of soils can be an indicator, particularly when there is a sharp contrast of soil colors over a short distance. Unusual odors can also be used as indicators of impacts and COC types. For instance, diesel contamination typically has a strong petroleum odor or creosote (wood preservative) contamination has a strong naphthalene smell, similar to mothballs.

2.2.3.1 Safety Meetings

Prior to the start of work, the Site Supervisor or Designee will conduct a Tailgate Safety Meeting. The following agenda items will be included in the meeting:

- Review this EH&SP with Site Facility staff involved in the work;
- Demonstrate the location of the work site relative to nearby Regulated Sites;
- Identify Key Personnel, including who makes decisions regarding observed environmental conditions;
- Review procedures to follow if floating product, sheen, odors, or staining or groundwater are observed during excavation.

Tailgate safety meetings will be held prior to the start of each MSO and weekly thereafter. Topics to be discussed will include health and safety hazards associated with the upcoming week's activities and any safety-related issues from the previous week's work.

A detailed record of each safety meeting and health and safety conference will be made on the Safety Meeting Form by the SSO. Visitor training will also be recorded on this form.

The work zone perimeter boundaries and the protocol for adjusting those boundaries will be firmly established at the first tailgate safety meeting and prior to start of work.

2.2.4 Dust Control and Site Cleanup

Dust control and site cleanup will be handled in a manner consistent with the Port Safety Manual and the Port's Storm Water Management Plan.

3. JOB HAZARD ANALYSIS AND HAZARD MITIGATION

There are two types of hazards on a work site: 1) chemical hazards; and 2) physical hazards. The hazards are described below.

3.1 Chemical Hazards Analysis

It is possible that contaminated soil will be encountered in any shallow excavation within the Maritime Area. The shallow soil may contain petroleum hydrocarbons, SVOCs, PCBs, metals including lead, pesticides, and/or VOCs.

The potential chemical hazards are related to those industrial processes that have been generally historically found within the Maritime Area. This hazard information is provided for information only and is not intended to be a comprehensive discussion of the possible chemical hazards for any particular site.

Typical exposure pathways to chemical hazards in soil are inhalation of vapors from soil or separate phase petroleum product, inhalation of dust, ingestion of soil, and dermal (direct) contact with soil. Vapors from soil may contain petroleum hydrocarbons or VOCs, typically from solvents. Workers may also be exposed to contaminants through ingestion or inhalation of dust containing SVOCs, PCBs, lead other metals, pesticides, or petroleum hydrocarbons. Incidental dermal exposure to dust and soil containing COCs is also an exposure route of concern. This exposure pathway will be controlled with the institution of proper hygienic practices and use of appropriate personal protective equipment, including washing before eating, drinking, smoking, or leaving the site. All Port employees share responsibility for their safety and must exercise the proper washing of hands and must employ the other hygienic and safety practices delineated herein.

3.2 Physical Hazards

Additional hazards common to shallow excavation work, including those listed below, are covered in the Port Safety Manual.

- Fire Prevention
- Heavy Equipment Movement
- Demolition Debris
- Heat Stress Hazards
- Noise Hazards

3.2.1 Mitigating Physical Hazards

Mitigation measures to reduce these hazards include:

- Engineering Controls
- Employee Training
- Employee Monitoring

Mitigation measures will be consistent with those described in the Port IIPP.

3.3 Regulatory Requirements

This EH&SP has been prepared with reference to the following regulations, guidelines, and documents:

- United States Department of Labor, OSHA standards, specifically:
    - Title 29 CFR Part 1926 - Health and Safety Regulations for Construction
- California Occupational Health and Safety Regulations, specifically:
    - Title 8 CCR §5095-5 100 - Hearing Conservation
    - Title 8 CCR Chapter 4, Subchapter 4 - Construction Safety Orders
    - Title 8 CCR §3203 - Injury and Illness Prevention Program
    - Title 8 CCR §5194 – Hazard Communication
    - Title 8 CCR§1532.1 – Lead in Construction
- United States Environmental Protection Agency's Standard Operating Safety Guides, July 1988.

Because Project conditions are subject to change and unforeseen conditions may arise, amendments or additions to this EH&SP may be needed during the course of work. Only the Project SSO, in consultation with the Site Supervisor and Port Safety Officer may modify the EH&SP.

This EH&SP will be made available to any contractor or subcontractor or their representative who will be involved with the work operation. It will also be made available to Port employees, to employee designated representatives, and any federal, state, or local agencies with regulatory authority over the work site.

4. PERSONNEL TRAINING REQUIREMENTS

A health and safety training program specific to the Maritime Area EH&SP will be provided for all relevant Port Staff. The EH&SP will be provided to Port Contractors, as appropriate. The site-specific health and safety training will be provided either at a Department safety meeting or at the first tailgate safety meeting prior to the start of work. Attendance at the site-specific health and safety training will be documented. In addition, employees will be trained on an on-going basis as outlined in the Port's IIPP and Safety Manual:

Each employee requiring training will be trained in the following:

- Pre-construction Procedures (Project Setup)
    - Identification of Regulated Sites.
- Construction Procedures
    - Limits of work - when to contact Port Environmental Programs and Planning Division;
    - Procedures to follow if petroleum or solvent odors, sheen or stained soil are observed; and
    - The engineering controls and work practices associated with the employee's job assignment including training of employees to follow relevant good work practices.
- Additional Information
    - The specific nature of the operations which could result in exposure to chemicals of concern; and
    - The employee's right of access to records under Title 8 CCR 3204.

5. GENERAL SAFE WORK PRACTICES AND SITE CONTROL

5.1 General Safe Work Practices

General Safe Work Practices under this EH&SP shall be consistent with those discussed in the Port IIPP, the Port Safety Manual, and Port Administrative Policies, including the following topics, as appropriate:

- Confined Space Entry
- Site Excavations, Shoring
- Site Safety Meetings
- Site Entry Restrictions
- Personal Hygiene
- Signs and Barricades

5.2 Site Control Program

The Site Control Program, which addresses access control and establishes the work zones at the site, should be consistent with good safety practice and should protect employees and the public from site hazards.

5.3 Personal Protective Equipment

Personal Protective Equipment (PPE) will be selected to protect employees from the hazards and potential hazards they are likely to encounter as identified by the SSO. Table 2 lists minimum PPE requirements:

Table 2: Minimum Site PPE Requirements (fix page # in TOC)

Location	Tasks	PPE Level	Equipment Required
All Work Zones	All Tasks	D	• Hard Hat (worker on ground within reach of excavation equipment) • Safety Glasses (worker on ground) • High-Visibility Safety Vests (ANSI Class 3) • Hearing protection available • Leather Hard-Toed work boots (ASTM 2412 • Long sleeve shirt and long pants

Additional PPE may be required based on particular tasks, such as welding, and will be identified in the field by the SSO.

6. ENVIRONMENTAL MONITORING

Air monitoring requirements will be consistent with the Port Safety Manual and IIPP. The SSO or Designee will arrange air monitoring for worker health and safety with the support of the Port Safety Officer.

6.1 Air Monitoring

The Action Level for dust for general construction is initially established at 2.5 milligrams per cubic meter ("mg/m^3"), one-half of the Permissible Exposure Limit for respirable dust.

6.1.1 Visual Inspection

The Site Supervisor or SSO will visually inspect for dust during the work. If dust is visible for more than 30 seconds, additional engineering controls will be implemented to reduce visible dust. Additional engineering controls may include additional water applied to the site, increased control of traffic speed, and more aggressive soil removal from vehicle wheels. If additional engineering controls do not reduce the visible dust, then work shall cease until the Port Safety Officer adopts additional engineering controls or monitoring.

6.1.2 Air Monitoring for Combustible Gas/Oxygen Levels

If confined-space entry is required for the work (including entry into a trench where the worker breathing zone is below the top of the trench), the Confined Space Entry Program requirements, with appropriate air monitoring as defined the Port IIPP and Port Safety Manual, will be implemented.

6.1.3 Training Requirements of Monitoring Personnel

Personnel conducting air monitoring will have the training and experience necessary to properly perform the air monitoring and equipment calibration. Port Safety should be contacted for air monitoring falling outside established Port safety procedures.

6.2 Noise Monitoring

Noise monitoring will be conducted consistent with the Port Safety Manual.

6.2.1 Documentation of Monitoring

Records of monitoring results will be maintained at the Project by the SSO. Records include the date; time, contaminants or hazards monitored, person conducting monitoring, calibration date and method, operations and location of monitoring, and results.

7. INFORMATIONAL PROGRAMS

The Port's IIPP, the Hazard Communication Program, and the Port Safety Manual are available on the Port's intranet (Divisions/Environmental Programs and Planning) from any Port computer. Employees, contractors, and subcontractors will also be informed and will share information on chemical hazards at job sites, as required by the Hazard Communication standard. Material Safety Data Sheets ("MSDS") for all chemical materials used on-site will be made readily available to site personnel. Employees, contractors, and subcontractors working outside of the limits of the work zone will be notified of chemical hazards if required by the Hazard Communication standard.

8. EMERGENCY RESPONSE PLAN

The emergency response plan will be consistent with existing Port procedures. Emergency Response Plan components include, as applicable:

- Emergency Equipment
- Emergency Procedures
- Identification of Nearest Medical Assistance
- Site Communications and Alerting Means for Emergencies
- Places of Refuge
- Status and Capabilities of Emergency Response Providers
- Pre-emergency Planning
- Personnel Roles, Lines of Authority, and Communication
- Emergency Recognition and Prevention
- Site Security and Control
- Accident Reporting and Follow-Up
- Spill Containment
- Safety Inspections

9. SIGNATURES
(for Work Performed by Port Contractors Only)

Signatures below indicate that Port Contractors and subcontractors performing shallow excavation work on the Maritime Area (not on or within 20 feet of a Regulated Site) have reviewed this Environmental Health and Safety Plan and/or participated in a tailgate session discussing the key aspects of the Plan.

Contractor:_____

Work Location and Scope of Work:_____

Date:_____

PRINT NAME	SIGNATURE

10. REFERENCES

Port of Oakland, Injury and Illness Prevention Program ("IIPP"), current version located on the Port intranet.

Port of Oakland, Port Safety Manual, current version located on the Port intranet.

Port of Oakland Port Administrative Manual, current version located on the Port intranet.

Port of Oakland, Hazard Communication Program, current version located on the Port intranet.

APPENDIX A

Exposure Assessment Form

PORT OF OAKLAND
SHALLOW SUBSURFACE CONSTRUCTION
EXPOSURE ASSESSMENT FORM

MSO: _____ **DATES OF WORK:** _____

LOCATION OF WORK:
(attach a site plan) _____

_____

_____

_____

DESCRIPTION OF WORK: _____

_____

_____

_____

_____

_____

_____

DEPTH OF EXCAVATIONS:
(below ground surface) _____

_____

_____

EXPOSURE ASSESSMENT

Workers will not be exposed to site contaminants.	☐	Yes [1]
Workers may be exposed to site contaminants.	☐	Yes [2]

[1] Use Port's standard construction health and safety procedures.

[2] Work with Environmental Programs and Planning to develop a site-specific safety plan with engineering controls to reduce exposure to an acceptable level or contract work to a contactor with HAZWOPER trained personnel.

_____ _____

Sign (Site Safely Officer) Date