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Ser 62210LT/L8097
29 Jan 1998

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command

Subj: PARCEL E DRAFT FEASIBILITY STUDY, ENGINEERING FIELD ACTIVITY, WEST, NAVAL FACILITIES ENGINEERING COMMAND, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Encl: (1) Public Summary for Parcel E Feasibility Study, Hunters Point Shipyard

1. Enclosure (1) is forwarded for your information. The entire four volumes of this report are available for review at the Hunters Point Shipyard public information repositories in the San Francisco Main Library, and the Anna E. Waden Branch Library, 5075 Third Street, San Francisco, California. The public review period for this report ends on 02 March 1997.

2. Please direct any comments or questions to Mr. Richard Powell, Code 6221, at (650) 244-2655, or Ms. Luann Tetirick, Code 62210, at (650) 244-2561.

Original signed by:

RICHARD E. POWELL
By direction of
the Commanding Officer

Distribution:

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RAB Member: ROSE (Attn: Mr. Charles L. Dacus, Sr.)
RAB Member: Ms. Janet Ellis

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SHIPYARD, SAN FRANCISCO, CALIFORNIA

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RAB Member: Mr. Manual J. Ford
RAB Member: Innes Avenue Coalition (Attn: Ms. Jill Fox)
RAB Member: Hillside Homeowners (Attn: Ms. Bonnie Fraenza)
RAB Member: ROSES (Attn: Mr. Greg Freeman)
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RAB Member: Third Street Task Force (Attn: Ms. Henrietta Jones)
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RAB Member: All Hallows Young Ladies #182 (Attn: Ms. Erlinda B. Villa)
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RAB Member: San Francisco Enterprise (Attn: Mr. Andre Williams)
RAB Member: Mayor's Hunters Point Shipyard Citizens Advisory Committee
(Attn: Mr. Alfred Williams)
RAB Member: Shoreview Residents Association (Attn: Ms. Patricia Wright)
RAB Member: Mr. Mark Youngkin
Southeast Alliance for Environmental Justice

Copies to:

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Hunters Point Shipyard Parcel E Feasibility Study

Public Summary

The Navy has recently completed a study of possible cleanup options for Parcel E at Hunters Point Shipyard. The findings are presented in the *Parcel E feasibility study* report, which presents an evaluation of and estimated costs for eight cleanup options for Parcel E. A table summarizing the eight cleanup options being considered for Parcel E is attached to this public summary. A general description of the actions that are used in the eight options is also attached.

The shipyard is divided into six property parcels, A through F. Parcel E consists of about 135 acres of shoreline and lowland coast located along the western portion of Hunters Point Shipyard. Historically, Parcel E has been used primarily as a landfill and as a storage area for waste, construction, and industrial materials. It has also been used for office and laboratory space. The City of San Francisco's reuse plan calls for Parcel E to be used for open space, maritime, industrial, mixed-use (including a small residential area), and research and development activities.

Environmental investigations within Parcel E identified the following contaminants at Parcel E: metals, fuel-related wastes, cleaning solvents, pesticides, and polychlorinated biphenyls (PCB) associated with electrical transformers. For more information regarding the environmental investigations, you may review the *Parcel E remedial investigation* report, available at the public information repository listed in this public summary.

The Navy conducted interim cleanup actions at Parcel E to eliminate any immediate risks to the public and the environment. Such actions included the removal of underground storage tanks, PCB transformers, contaminated soil, storm drain sediments, and floating oil residues in waste ponds. The Navy also took measures to contain groundwater pollutants at the existing Parcel E landfill.

Before selecting a cleanup option for Parcel E, the Navy will issue a *proposed plan* to the public that presents the Navy's preferred option along with the other cleanup options proposed for Parcel E. The Navy will hold a 30-day public comment period to hear public concerns and suggestions about the cleanup options proposed for Parcel E. The public comment period is scheduled to begin in June 1998. During the comment period, a public meeting will also be held to allow community members to voice their comments on the proposed cleanup plan for Parcel E directly to the Navy. After the Navy reviews all comments received during the public comment period, the Navy will select a cleanup plan.

Terms shown in italics are defined on the attached "Definition of Terms."

SUMMARY OF CLEANUP OPTIONS*

Option No.	Soil	Groundwater
1	No action**	No action
2	<ul style="list-style-type: none"> • Multilayer caps over landfill/debris area and former oil reclamation pond area • Single-layer cap over remainder of Parcel E 	<ul style="list-style-type: none"> • Sheetpiling wall and slurry wall all around Parcel E
3	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Consolidate soils near former oil reclamation ponds and encapsulate with sheetpiling wall and multilayer cap • Excavate and use various Parcel E soils as foundation material for multilayer cap at landfill/debris area 	<ul style="list-style-type: none"> • Sheetpiling wall and interceptor trench along shoreline • Discharge collected groundwater to Bay or wetland • Encapsulate areas of groundwater contamination • Groundwater monitoring
4	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Excavate former oil reclamation ponds soils and dispose of off site • Excavate and use various Parcel E soils as foundation material for multilayer cap at landfill/debris area 	<ul style="list-style-type: none"> • Sheetpiling wall and interceptor trench along shoreline • Discharge collected groundwater to Bay or wetland • Encapsulate areas of groundwater contamination • Groundwater monitoring
5	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Excavate and treat former oil reclamation pond soils and various Parcel E soils and use as foundation material for multilayer cap at landfill/debris area 	<ul style="list-style-type: none"> • Sheetpiling wall and interceptor trench along shoreline • Pretreatment of groundwater and discharge to the publicly-owned treatment works (POTW) • Groundwater monitoring
6	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Excavate former oil reclamation pond soils and various Parcel E soils and dispose of off site 	<ul style="list-style-type: none"> • Sheetpiling wall and interceptor trench along shoreline • Pretreatment of groundwater and discharge to POTW • Groundwater monitoring
7	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Excavate former oil reclamation ponds soils and dispose of off site • Excavate and use various Parcel E soils as foundation material for multilayer cap at landfill/debris area 	<ul style="list-style-type: none"> • Encapsulate landfill/debris area with sheetpiling wall • Excavate saturated soils at areas of groundwater contamination and use as foundation material for multilayer cap at landfill/debris area • Dewater areas of groundwater contamination, pretreat collected groundwater, and discharge to POTW • Groundwater monitoring
8	<ul style="list-style-type: none"> • Multilayer cap over landfill/debris area • Excavate former oil reclamation pond soils and various Parcel E soils and dispose of off site 	<ul style="list-style-type: none"> • Encapsulate landfill/debris area with sheetpiling wall • Excavate saturated soils at areas of groundwater contamination and dispose of off site • Dewater areas of groundwater contamination, pretreat collected groundwater, and discharge to POTW • Groundwater monitoring

*All options except No. 1 include installation of a multilayer cap at the landfill/debris area and establishment of deed restrictions.

**Federal law requires that a "no-action" option be considered as a baseline against which all other cleanup options can be compared and evaluated. Under this alternative, no action would be taken to clean up soil or groundwater contamination, and the soil and groundwater would be left in its current condition.

Summary Description of Proposed Actions

The eight cleanup options listed in the table on the previous page are made up of various combinations of soil and groundwater actions. A general description of these actions is provided below.

Soil Actions

Multilayer Cap. Installation of a *multilayer cap* over about 40 acres of ground surface, including the landfill and the northwest debris area. Under Alternatives 2 and 3, a multilayer cap will also be installed over the former oil reclamation ponds area.

Deed Restrictions. Establishment of deed restrictions that restrict construction on the capped areas and prohibit the use of the groundwater by any future occupants.

Single-Layer Cap. Construction of a *single-layer cap* over Parcel E except at area capped with the multilayer cap. The single-layer cap would consist of clay, asphalt, or concrete material.

Excavate Soils and Use On site. Excavation and use of various Parcel E soils as foundation material for the multilayer cap at the landfill and debris area.

Excavate Soils and Dispose of Off site. Excavation of soils from the former oil reclamation ponds area and other Parcel E soils and disposing of them at an off-site licensed facility.

Treating Soil for Use as Cap Foundation Material. Excavation and treating contaminated soils around the former oil reclamation ponds as well as miscellaneous soils in Parcel E. The treated soils would be used as foundation material for the landfill and debris area multilayer cap. Treatment of the contaminated soils will consist of two technologies: *thermal desorption* and *solidification and stabilization* treatment.

Groundwater Actions

Sheetpiling Wall. Installation of an underground steel barrier wall ("*sheetpiling wall*") to prevent groundwater movement from Parcel E into the bay as well as prevent bay waters from infiltrating Parcel E. (In areas where the bedrock is close to the surface, sheetpiling cannot be installed; a *slurry wall* will be installed in those areas.)

Interceptor Trench. The *interceptor trench* will run along the length of the sheetpiling wall to collect groundwater from Parcel E. The trench will be filled with gravel and graded so that water will flow into a pipe, which will discharge the collected groundwater to either the bay or the POTW, depending on the alternative selected. Groundwater monitoring wells will be installed to confirm that groundwater entering the trench meets the appropriate discharge requirements.

Groundwater Actions (continued)

Encapsulate Groundwater Contamination. Placing a sheetpiling wall around and a multilayer or single-layer cap over areas of groundwater contamination within Parcel E to prevent the contaminants from spreading.

Groundwater Monitoring. Collecting groundwater samples downgradient of encapsulated groundwater areas to ensure contaminants are adequately contained and not spreading and collecting groundwater samples upgradient of the interceptor trench to confirm that groundwater entering the trench meets the appropriate discharge requirements.

Pretreat Groundwater. Groundwater collected in the trench would be pretreated and discharged to a POTW.

Removing Saturated Soils. Saturated soils that may be contaminating the groundwater would be removed and used as foundation material at the landfill/debris area cap or disposed of at an off-site licensed facility.

For more information about environmental investigations and cleanup at Hunters Point Shipyard, you may contact Mr. Ryan Brooks with the Navy at: 650/244-3109 (phone); 650/244-3010 (fax); rlbrooks@efawest.navfac.navy.mil

or by visiting the public information repository located at:

**San Francisco Public Library
Anna E. Waden Branch
5075 Third Street, San Francisco
or
City of San Francisco Main Library
Civic Center
San Francisco**

DEFINITION OF TERMS

Feasibility Study: A study in which potential cleanup methods are identified and evaluated based on their effectiveness, ease of implementation, cost, and other factors.

Interceptor Trench: An underground trench filled with gravel that captures groundwater; once the groundwater enters the trench it is channeled into a pipe for collection. Depending on the nature of the collected groundwater, the pipe discharges the water to either a constructed wetland, a treatment facility, or the San Francisco Bay.

Multilayer Cap: Placing layers of permeable and impermeable materials over contaminated materials to contain the contaminated materials. The surface of the capped area is mounded so that rain water will drain off the capped area.

Proposed Plan: A document that summarizes the cleanup methods examined in the feasibility study, presents the recommended method, and is used to solicit comments from the public.

Remedial Investigation (RI): An investigation to determine the types, amounts, and locations of contamination at a site.

Sheetpiling Wall: An underground steel barrier wall installed to prevent groundwater movement.

Single-layer Cap: Placing one layer of impermeable material, such as asphalt, clay, or concrete, over contaminated materials to contain the contaminated materials. The surface of the capped area is mounded so that rain water will drain off the capped area.

Slurry Wall: An underground wall composed of substances that cannot be penetrated. A slurry wall is generally built around a contaminated area to prevent the movement of contaminants or the inflow of unaffected groundwater into the contaminated area.

Solidification and Stabilization (S/S): A technology used to treat soil containing a variety of contaminants. During the S/S process, contaminated soil is mixed with a material that binds the soil and contaminants together to form a solid, concrete-like mass from which contaminants are unable to move.

Thermal Desorption: A technology that heats contaminated soil in an oven-like machine to separate harmful chemicals from soil and move them into the air. The air containing the chemicals is then moved to another container for additional treatment or disposal, and the soil is cooled and either used as backfill or treated further.