Draft

Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restoration Sites 7 and 18) and G

Hunters Point Naval Shipyard
San Francisco, California

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Prepared for:
Base Realignment and Closure
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ACRONYMS AND ABBREVIATIONS

§	Section
§§	Sections
ACM	Asbestos-containing material
AOC	Area of concern
ARIC	Area requiring institutional controls
AST	Aboveground storage tank
BCT	Base Realignment and Closure Cleanup Team
BRAC	Base Realignment and Closure
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CAA	Corrective Action Area
Cal. Code Regs.	*California Code of Regulations*
CAP	Corrective Action Plan
CDHP	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
City	City of San Francisco
COC	Chemical of concern
CRUP	Covenant to restrict use of property
DoD	U.S. Department of Defense
DTSC	Department of Toxic Substances Control
EBS	Environmental baseline survey
EPA	U.S. Environmental Protection Agency
ERRG	Engineering/Remediation Resources Group, Inc.
ETCA	Early Transfer Cooperative Agreement
FAD	Friable, accessible or damaged
FFA	Federal Facility Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FOSET	Finding of Suitability for Early Transfer
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
Foster Wheeler	Foster Wheeler Environmental Corporation

ACRONYMS AND ABBREVIATIONS (Continued)

HHRA	Human health risk assessment
HLA	Harding Lawson Associates
HPNS	Hunters Point Naval Shipyard
IAS	Initial Assessment Study
IC	Institutional control
IPE	Industrial process equipment
IR	Installation Restoration
ITSI	Innovative Technical Solutions, Inc.
LBP	Lead-based paint
LFR	Levine-Fricke-Recon, Inc.
LUC	Land use control
LUC RD	Land use control remedial design
MACTEC	MACTEC Engineering and Consulting, Inc.
MOA	Memorandum of Agreement
NAVSEA	Naval Sea Systems Command
Navy	Department of the Navy
Navy/DTSC MOA	Memorandum of Agreement between the Navy and the California DTSC and attached covenant models
NEESA	Naval Energy and Environmental Support Activity
NPL	National Priorities List
NRDL	Naval Radiological Defense Laboratory
O&M	Operation and maintenance
PACM	Potential asbestos-containing material
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
ppm	Parts per million
PRC	PRC Environmental Management, Inc.
Q&RA	Quality and reliability assurance
RACR	Removal Action Completion Report
Regional Water Board	San Francisco Bay Regional Water Quality Control Board
RI	Remedial investigation
RMP	Risk Management Plan
ROD	Record of Decision

ACRONYMS AND ABBREVIATIONS (Continued)

SFRA	San Francisco Redevelopment Agency
Sealaska	Sealaska Environmental Services LLC
SI	Site inspection
SSPORTS	Supervisor of Shipbuilding Conversion and Repair, Portsmouth, Virginia, Environmental Detachment
TACAN	Tactical air navigation
TCE	Trichloroethene
TCRA	Time-critical removal action
Tetra Tech	Tetra Tech EM Inc.
TPH	Total petroleum hydrocarbons
Triple A	Triple A Machine Shop Inc.
TSI	Thermal system insulation
TtEC	Tetra Tech EC, Inc.
TtFW	Tetra Tech Foster Wheeler Inc.
U&A	Uribe and Associates
UC	Utility corridor
U.S.C.	*United States Code*
UST	Underground storage tank
VOC	Volatile organic compound
ZVI	Zero-valent iron

1.0 INTRODUCTION

This finding of suitability for early transfer (FOSET) documents the Department of the Navy's (Navy) finding that Parcel G and a portion of Parcel B (Parcel B with the exception of Installation Restoration [IR] Sites 7 and 18) at Hunters Point Naval Shipyard (HPNS), California (hereinafter referred to as the "Early Transfer Property"), is suitable for early transfer to the San Francisco Redevelopment Agency (SFRA), pursuant to the covenant deferral provisions of Section (§) 120(h)(3)(C) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

In 1989, HPNS was listed on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) of hazardous substance releases sites. A Federal Facility Agreement (FFA) was signed on January 22, 1992 which established the framework and schedule for the investigation and remediation of HPNS under CERCLA and other state and federal laws (Navy 1992). The FFA also describes the roles of each of the FFA signatories, which are the Navy, EPA, State of California Department of Toxic Substances Control (DTSC), and the San Francisco Bay Regional Water Quality Control Board (Regional Water Board).

CERCLA § 120(h)(3)(C), titled "Deferral," allows the EPA to approve, with the concurrence of the Governor of the State, a deferral of the requirement that the United States provide a covenant in the deed conveying the Early Transfer Property warranting that all response actions necessary to protect human health and the environment have been taken before the date of transfer. This type of transfer is commonly referred to as an "early transfer." There are two general types of early transfers: (1) transfer of Early Transfer Property with the Federal Government retaining responsibility for the remaining environmental remediation activities; and (2) transfer of Early Transfer Property whereby the subsequent property owner assumes the responsibility for the remediation, commonly referred to as "an early transfer with privatized remediation." The proposed transfer of the Early Transfer Property at HPNS is in the second category. The remainder of Parcel B, consisting of IR Sites 7 and 18 in Parcel B, will be conveyed following completion of a separate Finding of Suitability to Transfer (FOST) subject to the covenant requirements of § 120(h)(3)(A) of CERCLA.

The Navy designated HPNS for closure under the Base Realignment and Closure (BRAC) Program in 1991. In a memorandum dated February 16, 2007, the City of San Francisco (City) initiated the request for the early transfer of the remaining Navy-owned property (City and County of San Francisco 2007). The Early Transfer Property will be conveyed to the SFRA, the local reuse organization approved by the City to accept conveyance of the early Transfer Property, pursuant to § 2824(a) of the National Defense Authorization Act for Fiscal Year 1991 (Pub. L. No. 101-510), as amended by § 9 2834 of the National Defense Authorization Act for Fiscal Year 1994 (Pub. L. No. 103-160).

This FOSET documents the environmental findings and status of environmental investigations for a proposed early transfer, pursuant to the provisions of CERCLA § 120(h)(3)(C), of the Early Transfer Property at HPNS to the SFRA. In this FOSET, the term "Transferee" refers to the SFRA, and any future successors or assigns in interest.

1.1 PURPOSE

The purpose of this document is to present the Navy's analysis and finding that the Early Transfer Property, consisting of approximately 80 acres at HPNS in San Francisco, California, is suitable for early transfer with appropriate notices, covenants, assurances, easements, and restrictions as specified herein. This document is also provided to allow the public an opportunity to provide written comments on the suitability of the Early Transfer Property for early transfer. The public may provide comments during a designated 30-day public comment and review period.

CERCLA § 120(h)(3)(C) requires that deferral of the deed covenant—warranting that all response actions necessary to protect human health and the environment have been taken before the date of transfer—be supported by a determination that the Early Transfer Property is suitable for transfer, based on all of the following:

1. The Early Transfer Property is suitable for transfer for the use intended by the Transferee, and the intended use is consistent with the protection of human health and the environment.
2. The deed or other agreement proposed to govern the transfer contains response action assurances set forth in clause (ii) [CERCLA § 120(h)(3)(C)(ii)].
3. The federal agency requesting deferral (Navy) has provided notice, by publication in a newspaper of general circulation in the vicinity of the Early Transfer Property, of the proposed transfer and of the opportunity for the public to submit, within a period of not less than 30 days after the date of the notice, written comments on the suitability of the Early Transfer Property for transfer.
4. The deferral and the transfer of the Early Transfer Property will not substantially delay any necessary response action at the Early Transfer Property.

As identified in item 2 above, the response action assurances required to be in the deed or transfer agreement include:

1. Provide for any necessary restrictions on the use of the Early Transfer Property to ensure the protection of human health and the environment.
2. Provide for restrictions on the use of the Early Transfer Property necessary to ensure that required remedial investigations (RI), response actions, and oversight activities will not be disrupted.
3. Provide that all necessary response actions will be taken, and identify schedules for investigation and completion of all necessary response actions, as approved by the appropriate regulatory agencies.
4. Provide that the Navy will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for investigation and completion of all necessary response actions, subject to congressional authorizations and appropriations.

This FOSET executed by the Navy provides the basis for the determination by the Navy that the Early Transfer Property is suitable for early transfer and establishes that all the response action assurances have been provided. This FOSET is part of the package of documents sent by the Navy to the Administrator of the EPA for approval, and sent by the California DTSC to the Governor for concurrence requesting deferral of the covenant, warranting that all remedial action necessary to protect human health and the environment has been taken prior to the date of transfer. That package is referred to as the Covenant Deferral Request, and will include, in addition to the FOSET and its attachments, the following documents:

- Administrative Order on Consent issued by the EPA and the State of California (DTSC and the Regional Water Board) to the SFRA. This EPA Order, which will be issued to the SFRA and CP/HPS Development Co., LP, and will take effect when the Navy transfers the Early Transfer Property to the SFRA, will govern cleanup of the Early Transfer Property by the SFRA and CP/HPS Development Co., LP after the FFA (Navy 1992) provisions are suspended, as these apply to the Early Transfer Property. The Order would set forth the responsibilities of the SFRA and CP/HPS Development Co., LP for undertaking the cleanup of the Early Transfer Property. The FFA is being amended to provide in general that the obligations of the Navy to conduct that portion of the cleanup of the site which the SFRA and CP/HPS Development Co., LP have agreed to perform under the Early Transfer Cooperative Agreement (ETCA) and the Order will be suspended so long as the SFRA and CP/HPS Development Co., LP (also known as the Respondents) comply with all requirements of the Order.

- Quitclaim Deeds for conveyance of the Early Transfer Property to the SFRA, containing the restrictions set forth in the notices and restrictions described in Section 6.0 of this FOSET for the parcel to be transferred to the escrow account.

- Covenant to Restrict Use of Property (CRUP) that the Navy has determined it will rely upon to invoke proprietary controls in the form of environmental restrictive covenants as provided in the "Memorandum of Agreement Between the United States Department of the Navy and the California Department of Toxic Substances Control" and attached covenant models (Navy and DTSC 2000) (hereinafter referred to as the "Navy/DTSC Memorandum of Agreement [MOA]").

  More specifically, land use and activity restrictions will be incorporated into two separate legal Institutional Controls (IC) instruments as provided in the Navy/DTSC MOA:

  1. Restrictive covenants included in both Quitclaim Deeds from the Navy to the Early Transfer Property recipient.

  2. Restrictive covenants included in both "Covenants to Restrict Use of Property" entered into by the Navy and DTSC as provided in the Navy/DTSC MOA and consistent with the substantive provisions of *California Code of Regulations* (Cal. Code Regs.) Title 22 § 67391.1.

In addition to being set forth in the "Covenant(s) to Restrict Use of Property" and Quitclaim Deed(s) as described above, restrictions applied to specified portions of the Early Transfer Property are described in Section 6.0 of this FOSET.

- ETCA between the Navy and the SFRA which establishes the Navy's and the SFRA's obligations for completion of all response actions necessary to protect human health and the environment with respect to any hazardous substances remaining on the Early Transfer Property. The Technical Specifications and Requirements Statement, included in the ETCA, provides the Navy's general specifications for the SFRA regarding the scope of remediation activities that comprise the Environmental Services as defined in the ETCA.

- FFA Amendment. An FFA amendment will be executed to suspend the provisions of the FFA as these apply to the Navy at Parcels B and G, with the exception of IR Sites 7 and 18, and subject to the Administrative Order on Consent provisions, provided that the Navy will resume FFA responsibility under the FFA if the SFRA is found to be in default under the Administrative Order on Consent.

- Land Use Control Remedial Designs (LUC RD) for Parcels B and G prepared by the Navy and approved by the FFA signatories, that specify land use controls (LUC) applicable to the Early Transfer Property.

- The Pre-Remedial Action Completion Report Risk Management Plan (RMP) and the Post-Remedial Action Completion Report RMP prepared by the SFRA and approved by the FFA signatories. These will specify the implementation of LUCs applicable to the Early Transfer Property before and after the remedial actions are conducted.

1.2 DOCUMENT FORMAT

This document is organized in the following sections:

- Property Description (Section 2.0)
- Nature and Extent of Contamination (Section 3.0)
- Analysis of Future Land Use (Section 4.0)
- Requirements for Remedial, Corrective, and Response Actions and Operations (Section 5.0)
- Notices, Covenants, Easements, and Use Restrictions (Section 6.0)
- Responsiveness Summary (Section 7.0)
- Finding of Suitability for Early Transfer (Section 8.0)
- Supporting Environmental Documentation (Section 9.0).

Supporting figures and tables are provided at the end of the text. The following appendices are presented following the figures and tables:

- Appendix A, a notification of hazardous substances that were stored, released, or disposed of within the Early Transfer Property.
- Appendix B, responsiveness summary, will be presented in the draft final FOSET after public comments are received on the draft FOSET.

2.0 PROPERTY DESCRIPTION

HPNS, located in San Francisco, California, includes about 866 acres (420 acres on land and 446 acres under water in San Francisco Bay) (Figure 1). In 1992, the Navy divided HPNS into five contiguous parcels (A through E); a sixth parcel (F) was designated in 1996 to encompass the offshore areas (ChaduxTt 2009). In 2004, the Navy divided the western portion of Parcel E to create E-2 (Engineering/Remediation Resources Group, Inc. [ERRG] 2009). In 2008, the Navy redefined HPNS into 11 parcels, creating Parcels D-1, D-2, G, and two utility corridors (UC) (ChaduxTt 2009). In 2010, the Navy divided Parcel E to create an additional utility corridor parcel, UC-3, for a total of 12 parcels (see Figure 2). The two parcels, Parcels B and G, which comprise the Early Transfer Property subject to this FOSET, are described below.

Parcel B consists of about 54 acres and is located on the northern side of HPNS (see Figure 3). Parcel B is bounded by other portions of HPNS, private property, and San Francisco Bay. Most of Parcel B was formerly part of the industrial support area and was used for shipping, ship repair, training, barracks, and offices. IR Sites 7 and 18 encompass 14 acres within Parcel B and are not part of this early transfer. The early transfer area of Parcel B encompasses approximately 40 acres.

Parcel G consists of about 40 acres and is located within the central portion of the former 98-acre Parcel D (see Figure 4). The former Parcel D was split to form Parcels D-1, D-2, G, and UC-1 in 2008 (Navy 2009a). Previous documents that focused on the overall Parcel D are also relevant to Parcel G and are referenced in the Final Record of Decision (ROD) for Parcel G (Navy 2009a). Parcel G was formerly part of the industrial support area and was used for shipping, ship repair, and office and commercial activities. The entirety of Parcel G is proposed for early transfer.

3.0 NATURE AND EXTENT OF CONTAMINATION

This section summarizes the nature and extent of contamination and any response actions taken at sites investigated as part of the Navy's IR Program. In addition, this section discusses other environmental factors considered relevant to evaluating the suitability of the Early Transfer Property for early transfer.

Parcel B contains all or a portion of Environmental Baseline Survey (EBS) sub-parcels NOS, N3 through N12, N14 through N16, and small pieces of N17 and HOS (see Figure 3); and Parcel G contains all or a portion of EBS sub-parcels S28 through S30 and S37 through S39 (see Figure 4). The documents listed in Section 9.0 were evaluated to identify the environmental status of the Early Transfer Property and adjoining properties.

3.1 PRESENCE OF HAZARDOUS SUBSTANCES

Activities at HPNS have involved storage of hazardous materials and generation of hazardous waste. The 1998 EBS report (Tetra Tech EM Inc. [Tetra Tech] 1998) disclosed that hazardous substances had been generated and stored in buildings in Parcels B and G in excess of the reportable quantities listed in Title 40 *Code of Federal Regulations* (CFR) Part 302.4. Historical records were used to evaluate types and estimated quantities of hazardous material storage and hazardous waste generation by parcel and building during naval operations between 1942 and 1974. Hazardous substances stored, released, or disposed of are further discussed in Section 6.1.1.

The shipyard was deactivated in 1974 and leased to Triple A Machine Shop Inc. (Triple A), a private ship repair company, between 1976 and 1986 for use as a shipyard. During this period, Triple A subleased portions of the Early Transfer Property to various other businesses. After expiration of its lease, Triple A was involved in extensive litigation regarding disposal of hazardous wastes at the site. The Navy used HPNS for docking and repair of several Navy ships through 1989. After 1986, many of Triple A's tenants also continued occupancy at HPNS through leases with the Navy. No information is available on storage of hazardous substances for the years 1975 through 1995, when Navy operations at the shipyard were minimal (Tetra Tech 1998).

Updated hazardous substance storage information was obtained as part of the EBS report, including a survey of types and quantities of hazardous substances stored by tenants. In 1998, the EBS reported tenants stored more than 1,000 gallons of petroleum products in Building 114 in Parcel B and Buildings 401 and 411 in Parcel G, and that more than 1,000 kilograms of adhesives and sealants were stored in Building 404 in Parcel G. For all substances, the report summarized that no materials stored were hazardous substances exceeding reportable quantities under CERCLA (Tetra Tech 1998). In 2002 and 2003, the Navy conducted waste consolidation in Parcels B and G to identify any hazardous substances in buildings, and arranged for removal of containerized waste (IT Corporation 2002; Foster Wheeler Environmental Corporation [Foster Wheeler] 2003). Ongoing operations at HPNS that may involve storage of hazardous substances include remedial activities managed as part of the CERCLA response and tenant activities.

A summary of conditions at Parcels B and G by building is provided in Table 1.

3.2 INSTALLATION RESTORATION PROGRAM

Under CERCLA, Parcels B and G were historically investigated by IR site. The Early Transfer Property in Parcel B includes IR Sites 10, 20, 23, 24, 26, site inspection (SI) 31, 42, 60, 61, and 62; and portions of the basewide IR Sites SI 45, 46, 50, and 51 (see Figure 5). The Early

Transfer Property in Parcel G includes IR Sites 9, 33, 34, 37, 44, 65, 66, 67, and 71 (see Figure 6). This section addresses the CERCLA IR Program sites within Parcels B and G.

3.2.1 Parcel B Installation Restoration Program

Parcel B originally consisted of 16 IR sites, which were investigated during the RI, and two SI sites, which did not require further investigation. Since that time, the boundaries of Parcel B have been redefined, and IR Sites 6 and 25 have become part of Parcel C. IR Sites SI 45 (steam line system) and 50 (storm drain and sanitary sewer system) are facility-wide utility sites that traverse other sites. IR Site 51 is a facility-wide site that consists of buildings and areas that formerly housed electrical transformers. Furthermore, any base infrastructure at Parcel B that is considered to be "hanging" off seawalls and quay walls into the bay, such as piers, wharves, and dry dock side walls, is considered part of Parcel F (ChaduxTt 2009).

The CERCLA IR Program sites within Parcel B include IR Sites 7, 10, 18, 20, 23, 24, 26, SI 31, 42, 60, 61, and 62, as well as portions of the basewide IR Sites SI 45, 46, 50, and 51 (see Figure 5). IR Site 62 was initially identified as a CERCLA site based on the suspected presence of CERCLA contaminants; however, following investigation and sampling, it was determined that contamination at this site is limited to petroleum-related compounds, and this is now being addressed by the Navy's Petroleum Program. The Early Transfer Property in Parcel B includes all of these IR sites except for IR Sites 7 and 18.

In 1997, the Navy completed a ROD for Parcel B addressing these sites. The remedy for soil involved excavation and off-site disposal (Navy 1997); however, this strategy was unable to achieve remedial action objectives across Parcel B. The widespread distribution of metals in soil, especially arsenic and manganese, was the primary obstacle to this strategy. Likewise, groundwater contamination has been found more widespread and at higher concentrations than had been known when the original groundwater remedy of monitoring was selected.

In 2009, the Navy completed an Amended ROD that achieved concurrence from the EPA, DTSC, and the Regional Water Board (ChaduxTt 2009). The Navy prepared the Amended ROD for Parcel B because the remedy selected in the 1997 ROD was not protective of human health and the environment in the long term. The selected amended remedial action for Parcel B addresses metals and organic compounds in soil and sediment, volatile organic compounds (VOC) in groundwater in the A-aquifer, VOC vapors in soil gas, and radionuclides in structures (such as buildings) and in soil. To address soil contamination in the upland portions of the parcel, the amended remedy consists of excavation and off-site disposal, durable covers, and ICs. Along the shoreline, ICs will be implemented and revetments will be installed to prevent exposure to chemicals of concern (COC) in sediment and to prevent erosion and potential migration of COCs to the bay. VOCs in groundwater will be actively treated with a biological substrate. The amended groundwater remedy also includes monitoring and ICs to address contamination. The amended remedy for VOC vapors in soil gas includes operation of a soil vapor extraction system, monitoring, and ICs. Areas where remedial actions or removal actions will be completed pursuant to the remedial design, as well as groundwater monitoring wells that will continue to be monitored, are identified on Figure 5 and Figure 7. Finally, the original remedy did not involve radiological contaminants, but the

Amended ROD for Parcel B addresses radionuclides in structures and soil, and the amended remedy incorporates actions to address radioactive contaminants found in soil and structures at Parcel B (ChaduxTt 2009). The ICs placed on Parcel B are discussed further in Section 6.3.3.

The Navy has completed a basewide time-critical removal action (TCRA) as it applies to Parcel B to address low concentrations of radionuclides in storm drains and sanitary sewers (IR Site 50). The TCRA as it applies to Parcel B included excavating radiologically impacted storm drain and sanitary sewer lines and removing radionuclides from buildings at Parcel B to achieve the removal action cleanup objectives. *The final status survey reports and survey unit package reports for Parcel B were summarized in a removal action completion report (RACR), and were reviewed and approved by the BRAC Cleanup Team (BCT) and the California Department of Public Health (CDPH) (Tetra Tech EC, Inc. [TtEC] 2011a – forthcoming). The TCRA met the remedial action objectives in the Amended ROD for Parcel B as documented in the RACR for Parcel B (TtEC 2011a – forthcoming). The CDPH is expected to document its finding that the Early Transfer Property is suitable for "unrestricted release" of the Early Transfer Property after EPA, DTSC, and Regional Water Board issue their concurrence with the radiological RACR for Parcel B.*

In addition to the CERCLA IR sites, eight Total Petroleum Hydrocarbon (TPH)-commingled areas of concern (AOC) have been identified (see Figure 10). The eight TPH-commingled AOCs are 7E, 10-B, 10-C, 24-C, 26-B, 46-C, 61-A, and 61-B. These AOCs consist of areas that have both CERCLA and Regional Water Board petroleum program-related constituents. The CERCLA contamination associated with these TPH-commingled AOCs has been removed or mitigated in accordance with the Amended ROD across the parcel, except at IR Site 10 where further action (operation of a soil vapor extraction system) is to be continued after transfer of the parcel. The petroleum constituents have been mitigated under oversight of the Regional Water Board and recommended for no further action, as documented in the Draft Final TPH Closure Report (Innovative Technical Solutions Inc. [ITSI] 2010b, 2010c). Upon approval by the Regional Water Board, the regulatory closure of the TPH-commingled AOCs will be documented in closure letters to be issued by the Regional Water Board.

3.2.2 Parcel G Installation Restoration Program

The CERCLA IR Program sites within Parcel G include IR Sites 9, 33, 34, 37, 44, 65, 66, 67, and 71 (see Figure 6). The Navy completed a ROD for Parcel G addressing these sites, and that ROD has achieved concurrence from the EPA, DTSC, and the Regional Water Board (Navy 2009a). The ROD outlines remedies associated with the IR Program sites.

In addition to the CERCLA IR sites, four TPH-commingled AOCs (33-B, 37-A, PA45TA00 and IR34B018) have been identified through the petroleum program (Figure 11). Additional investigation at the three AOCs (33-B, 37-A, and IR34B018) was included as part of the summer 2009 groundwater data gaps investigation. The CERCLA contamination associated with these TPH-commingled AOCs has been removed or mitigated in accordance with the ROD. The petroleum constituents have been mitigated under oversight of the Regional Water Board and recommended for no further action, as documented in the Draft Final TPH Closure Report

(ITSI 2010a). Upon approval by the Regional Water Board, the regulatory closure of the TPH-commingled AOCs will be documented in closure letters to be issued by the Regional Water Board.

The selected remedial action for Parcel G addresses metals (especially arsenic, lead, and manganese) and polycyclic aromatic hydrocarbons (PAH) in soil, VOCs and metals (chromium VI and nickel) in groundwater in the A-aquifer, and radionuclides in structures (such as buildings) and soil. To address soil contamination, the remedy consists of excavation and off-site disposal, durable covers, and ICs. The groundwater remedy includes monitoring and ICs to address any residual VOC contamination following the zero-valent iron (ZVI) treatment, as discussed below. Areas where remedial actions or removal actions are planned are identified on Figure 6 and Figure 8. Groundwater plumes in Parcel G associated with IR Sites 9 and 71 were treated during a treatability study (Alliance Compliance Group 2010) in 2008 with injections of ZVI to treat VOCs identified as COCs in Parcel G groundwater. Following injection of ZVI in groundwater, analytical results of confirmation sampling met remedial action objectives at all but two locations (wells IR09MW07A and IR71MW03A). Groundwater monitoring will be conducted in accordance with the remedial action monitoring plan (ChaduxTt 2010a) to confirm VOC concentrations continue to attenuate in response to the treatment. The ICs being implemented at Parcel G are described in Section 6.3.3.

The Navy has completed a basewide TCRA for storm drains and sanitary sewers (IR Site 50) as it applies to Parcel G. The TCRA as it applies to Parcel G involved excavating radiologically impacted storm drain and sanitary sewer lines and removing radionuclides from buildings at Parcel G to achieve the removal action cleanup objectives. *The TCRA met the remedial action objectives in the ROD for Parcel G as documented in the RACR for Parcel G (TtEC 2011b – forthcoming). The CDPH is expected to document its finding that the Early Transfer Property is suitable for "unrestricted release" of the Early Transfer Property after EPA, DTSC, and Regional Water Board issue their concurrence with the radiological RACR for Parcel G.*

3.2.3 Groundwater

Groundwater monitoring for COCs is ongoing in both Parcels B and G to monitor COCs. All groundwater monitoring wells within Parcels B and G are identified on Figure 5 and Figure 6, respectively. The wells are monitored as part of the basewide groundwater monitoring program, remedial action monitoring program, or other active groundwater programs at HPNS.

In Parcel B, human health risks from exposure to nonradioactive COCs in groundwater were assessed for the A- and B-aquifers. COCs in groundwater in the A-aquifer include (1) VOCs, especially trichloroethene (TCE) and its breakdown products; (2) chromium VI; and (3) mercury. Exposure to groundwater from inhalation of volatile COCs in groundwater that migrate through the subsurface to indoor air (vapor intrusion) was the only complete exposure pathway from the A-aquifer for the planned reuses of Parcel B. Investigations have identified a VOC plume in the groundwater in IR Site 10 (see Figure 5), and two additional VOC plumes were identified in adjacent Parcel C IR Sites 6 and 25. ICs have been selected in the Amended ROD for Parcel B to address vapor intrusion from VOCs in groundwater (see Figure 9), as well as to prohibit domestic use of groundwater. Figure 9 shows the areas requiring institutional controls (ARIC)

for the Early Transfer Property. *The ARICs were defined based on the results of a site-wide soil gas survey (Sealaska Environmental Service LLC [Sealaska] 2010 – forthcoming).* Exposure to groundwater from the B-aquifer poses a potential risk only through domestic use in areas where the A- and B-aquifers are interconnected.

At Parcel B, potential risks to aquatic life in San Francisco Bay were also identified from several metals in groundwater in the A-aquifer, including: chromium VI, copper, lead, mercury, and selenium. These risks are being managed through groundwater monitoring as part of the remedial action monitoring plan for Parcel B (ChaduxTt 2010b).

In Parcel G, the groundwater in the A-aquifer, as discussed in the feasibility study, is not suitable for use as drinking water. In August 2003, the Navy presented an evaluation which emphasized the A-aquifer is not reasonably expected to supply a public water system because of the following: high total dissolved solids in much of the A-aquifer; widespread presence of naturally occurring contaminants in the A-aquifer that cannot be reasonably treated; presence of storm drain and sanitary sewer lines located beneath the water table; potential for saltwater intrusion should municipal or domestic water supply be attempted; and existence of a high-quality public water supply system that is in place and operational (Navy 2003).

In September 2003, the Regional Water Board concurred that the A-aquifer groundwater beneath HPNS is not a potential source of drinking water pursuant to State of California Water Resources Control Board Resolution 88-63 and Regional Water Board Resolution 89-39 (Regional Water Board 2003). In Parcel G, exposures to groundwater in the A-aquifer were evaluated based on (1) indoor air inhalation via vapor intrusion for potential future residents, (2) dermal exposure and inhalation to construction workers, and (3) transport of COCs (especially metals) and potential effects on aquatic life in the San Francisco Bay. Potential human health risks from groundwater are based on breathing VOC vapors in indoor air that may have migrated through the subsurface from groundwater in the A-aquifer. The COCs in groundwater from the vapor intrusion pathway are benzene, carbon tetrachloride, chloroform, methylene chloride, naphthalene, tetrachloroethene, TCE, and xylenes. In addition, the human health risk assessment (HHRA) results for groundwater show that the risk from exposure to the A-aquifer groundwater via dermal exposure and inhalation to construction workers exceeds the cancer risk threshold of 10^{-6} in areas with elevated concentrations of the COCs. These COCs from this exposure pathway are arsenic, benzene, naphthalene, tetrachloroethene, and xylenes. The groundwater in the B-aquifer was evaluated as a drinking water source, although it has low potential for use as drinking water. The B-aquifer was evaluated for all chemicals of potential concern through the domestic use of groundwater pathway. No unacceptable risk was found from this exposure scenario; therefore, no COCs are associated with the B-aquifer (Navy 2009a). At Parcel G, potential risks to aquatic life in San Francisco Bay were also identified for chromium VI and nickel in groundwater in the A-aquifer. These risks are being managed through groundwater monitoring as part of the remedial action monitoring plan for Parcel G (ChaduxTt 2010a).

Groundwater plumes in Parcel G associated with IR Sites 9 and 71 were addressed during a treatability study in 2008 with injections of ZVI to treat VOCs. Following injection of ZVI to treat VOCs in groundwater, analytical results of confirmation sampling met remedial action

objectives at all but two locations (wells IR09MW07A and IR71MW03A). ICs have been selected in the ROD for Parcel G to address vapor intrusion from VOCs in groundwater and from soil vapor; the ARICs are shown on Figure 9. *The ARICs were defined based on the results of a site-wide soil gas survey (Sealaska 2010 – forthcoming).* The final treatability study closure report recommends continued monitoring to verify that remedial action objectives have been met (Alliance Compliance Group 2010). The groundwater monitoring will be conducted in accordance with the remedial action monitoring plan for Parcel G (ChaduxTt 2010a) to confirm VOC concentrations continue to attenuate in response to the treatment.

3.2.4 Pesticides and Herbicides

No records were located for either Parcels B or G documenting an area or building dedicated to storage of pesticides (Tetra Tech 1998). As part of the waste consolidation effort, any abandoned containers of pesticides located in buildings in Parcel G were collected, identified, sampled, tested, and properly disposed of off site in 2003 (Foster Wheeler 2003).

Pesticides were detected in soil samples collected within Parcels B and G and in sediment samples collected within Parcel B. The selected remedial action for Parcel B addresses pesticides in shoreline sediment. The pesticides detected in samples collected from Parcels B and G likely derived from application of pesticides during management of the Early Transfer Property.

The Early Transfer Property may contain pesticide residue from pesticides that have been applied in the management of the Early Transfer Property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA – 7 *United States Code* [U.S.C.] § 136, et seq.), its implementing regulations, and according to the labeling provided with such substances. It is the Navy's position that it shall have no obligation under the covenants provided pursuant to § 120(h)(3)(A)(ii) of CERCLA, 42 U.S.C. §§ 96720(h)(3)(A)(ii) for the remediation of legally applied pesticides. It is appropriate to inform the Early Transfer Property recipient of the potential presence of pesticides from the management of the Early Transfer Property as described above, and a notice related to pesticides is presented in Section 6.0.

3.2.5 Spent Abrasive Material

More than 80 percent of HPNS consists of relatively level lowlands that were constructed mostly by placement of borrowed fill material from a variety of sources, including serpentinite bedrock from the shipyard, construction debris, and waste materials (such as used sandblast materials). The fill supported new buildings, construction, and in some cases filled the margin of San Francisco Bay (ChaduxTt 2007). Abrasive blasting was historically performed at HPNS. Elevated levels of metals have been identified in spent abrasive blast material or sandblast grit at HPNS. Spent abrasive materials may have been used for pipeline bedding or backfill after excavations.

Spent abrasive materials associated with the decontamination of ships used during atomic weapons testing in the South Pacific were also removed from within Parcel G at IR Site 44 during the sandblast removal action between 1991 and 1995. Approximately 90 tons of sandblast grit was removed from IR Site 44 and recycled (SulTech 2007). All sandblast grit was tested for radiological contamination. No sandblast grit was found to have radiological contamination.

3.2.6 Radioactive Material

In the Historical Radiological Assessment (Naval Sea Systems Command [NAVSEA] 2004), the Navy identified radiologically impacted sites throughout HPNS (including buildings, equipment, and infrastructure), and within Parcels B and G, associated with former use of general radioactive materials and decontamination of ships used during atomic weapons testing in the South Pacific. The Navy is conducting a basewide TCRA to address potential radioactive contamination in buildings, former building sites, fill areas, storm drains, and sanitary sewers throughout HPNS including Parcels B and G. The TCRA involves (1) surveying radiologically impacted structures and former building sites; (2) decontaminating (and demolishing if necessary) buildings and former building sites; (3) excavating radiologically impacted storm drain and sanitary sewer lines; and (4) screening, separating, and disposing of radioactively contaminated excavated materials at an off-site, low-level radioactive waste facility.

The radionuclides of concern at Parcel B include cesium-137, cobalt-60, plutonium-239, radium-226, and strontium-90. Radiological sites of concern in Parcel B (see Figure 5) include radiologically impacted Buildings 113, 113A, 114, 130, 140 and the discharge channel, 142, 146, and 157; as well as portions of IR Sites 7 and 18 and sanitary sewers and storm drains. Buildings 114, 142, and 157 have been demolished. *Removal action activities at Parcel B continued until the removal action cleanup objectives were met. The underground portion of Building 140, which had housed pump equipment used to drain Dry Dock 3, was surveyed to verify that no residual radioactivity remains above remedial action objectives (TtEC 2011a – forthcoming).*

The radionuclides of concern at Parcel G include cesium-137, cobalt-60, plutonium-239, radium-226, strontium-90, thorium-232, tritium (hydrogen-3), and uranium-235. Radiological sites of concern in Parcel G include radiologically impacted buildings (351, 351A, 364, 365, 366/351B, 401, 408, 411, and a portion of Building 439) (see Figure 6), former building sites (317), and storm drains and sanitary sewers. In 2001, soil contaminated by a cesium-137 spill was removed from Building 364 and the surrounding area (Navy 2009a). The Navy has investigated, remediated, and surveyed Building Site 317 and Buildings 351, 351A, 366, 401, 411, and 439; and investigated and demolished Buildings 364, 365, and 408. *All radionuclide hazardous substances exceeding TCRA removal action objectives have been removed at Parcels B and G. The final status survey reports and survey unit package reports were summarized in separate RACRs for Parcels B and G, and were reviewed and approved by the BCT and the CDPH. Based on the completion of the TCRA for the Early Transfer Property, the radiological remedy for the Early Transfer Property is complete (TtEC 2011a, b – forthcoming).*

The TCRA met the remedial action objectives in the Amended ROD for Parcel B and the ROD for Parcel G as documented in the RACRs for Parcels B and G (TtEC 2011a, b – forthcoming). The CDPH is expected to document its finding that the Early Transfer Property is suitable for "unrestricted release" of the Early Transfer Property after EPA, DTSC, and the Regional Water Board issues their concurrence with the radiological RACRs for Parcels B and G.

3.3 PETROLEUM PROGRAM

This section addresses the petroleum program within Parcels B and G.

In 2008, the petroleum program evaluated AOCs and corrective action areas (CAA) in the Parcel B Corrective Action Plan (CAP) (Shaw Environmental, Inc. 2008). Within the early transfer portion of Parcel B, the Navy and Regional Water Board identified 18 petroleum AOCs, two petroleum CAAs, and 8 AOCs commingled with CERCLA constituents (TPH-commingled AOCs) (see Figure 10). Four TPH-commingled AOCs were recommended for no further action (10-B, 10-C, 26-B, and 61-A), and four (7-E, 24-C, 46-C, and 61-B) were recommended for additional sampling, which has been completed. The CAP report recommended additional investigation to evaluate whether corrective actions were necessary for four AOCs (24-E, 26-C, 46-A, and 46-B) and two CAAs (CAA-21 and CAA-22). All TPH removals and investigations have been completed to address petroleum AOCs, CAAs, and TPH-commingled AOCs. With the exception of CAAs 21 and 22 and AOCs 46-A and 46-B, all other petroleum AOCs and all TPH-commingled AOCs have been recommended for no further action, as documented in the Draft Final Petroleum Hydrocarbon Site Closeout Report for Parcel B (ITSI 2010b, 2010c). In Parcel B, two petroleum underground storage tanks (UST) were removed in 1993 and received case closure from the Regional Water Board in December 2002 (Regional Water Board 2002a, 2002b).

In Parcel B, additional soil and groundwater investigations at AOCs and CAAs occurred between June and August 2009 as planned in the Final Parcel B CAP Work Plan (ITSI 2009). In addition to the CAP investigations, additional pipelines discovered during the radiological removal actions in the vicinity of AOCs 24-E, 26-C, and 61-B were removed. A total of 1,500 linear feet of pipeline and any residual fuels were removed. Preliminary review of confirmation samples suggests that all but three samples collected in soil and groundwater and analyzed for petroleum program constituents (TPH; benzene, toluene, ethylbenzene, and xylenes [BTEX]; and some PAHs) are either below screening criteria or below the remedial action objectives selected in the Amended ROD for Parcel B (ChaduxTt 2009), and areas for restriction will be identified in the closure report. All subsurface activities are subject to land use restrictions to comply with ICs required under CERCLA and no additional restrictions are required for the petroleum AOCs and CAAs. Following regulatory closure, areas identified for restrictions will be identified in transfer documents as required. The Navy will retain the right to access Parcel B for any activities related to monitoring in CAAs 21 and 22 and AOCs 46-A and 46-B (Navy 2009b). Investigations, including installation of groundwater monitoring wells, have been completed as part of the CAP work (see Figure 10) (ITSI 2009). The Draft Final Petroleum Hydrocarbon Site Closeout Report for Parcel B has been submitted (ITSI 2010b, 2010c). Upon approval by the Regional Water Board, the regulatory closure of the petroleum AOCs and TPH-commingled AOCs will be documented in closure letters to be issued by the Regional Water Board.

To address TPH remaining at CAAs 21 and 22 and AOCs 46-A and 46-B, the Navy will continue groundwater monitoring of well IR46MW49A to address TPH concentrations in deep soil that exceed the TPH source criterion of 3,500 milligrams per kilogram, which remains under Building 130. Site closeout reports for CAAs 21 and 22 and AOCs 46-A and 46-B will be provided after the monitoring has been completed *(ITSI 2011 – forthcoming)*. Upon approval by the Regional Water Board, the regulatory closure of the remaining two AOCs and two CAAs will be documented in closure letters to be issued by the Regional Water Board.

No CAAs or petroleum program sites have been designated within Parcel G. Several USTs and aboveground storage tanks (AST) have been removed or closed in place in Parcel G (see Figure 11). Six AOCs in Parcel G (see Figure 11) are being addressed under the petroleum program. The Regional Water Board concurred on the recommendation for no further action at AOC 33-A. There are four TPH-commingled AOCs (see Figure 11) in Parcel G. All TPH removals and investigations have been completed to address petroleum AOCs and TPH-commingled AOCs. All petroleum AOCs and TPH-commingled AOCs in Parcel G have been recommended for no further action, as documented in the Draft Final Petroleum Hydrocarbon Site Closeout Report (ITSI 2010a).

During the BCT meeting on May 27, 2009, the Navy reported it had met with the Regional Water Board on May 20, 2009, and had concurred that a CAP report would not be required for Parcel G, and that additional investigations of AOCs within Parcel G would be included as part of the groundwater data gaps investigation (Navy 2009b). Additional soil and groundwater sampling at the AOCs in Parcel G occurred between June and August 2009. Samples were collected and analyzed for petroleum constituents (TPH, BTEX, and PAHs) at petroleum AOCs 33-C and 45D-A; and at CERCLA AOCs 33-B, 37-A, PA45TA00, and IR34B018. All subsurface activities are subject to land use restrictions to comply with ICs required under CERCLA, and no additional restrictions are required for the petroleum constituents in the AOCs. The Navy will retain the right to access Parcel G for any activities related to monitoring in Parcel G (Navy 2009b). The Draft Final Petroleum Hydrocarbon Site Closeout Report for Parcel G has been submitted (ITSI 2010a). Upon approval by the Regional Water Board, the regulatory closure of the petroleum AOCs and TPH-commingled AOCs will be documented in closure letters to be issued by the Regional Water Board.

3.4 UNDERGROUND STORAGE TANKS AND PIPELINES

In Parcel B, two petroleum USTs (UST S-135 within IR Site 62, and UST S-136 within IR Site 23) were removed in 1993; these USTs received case closure from the Regional Water Board in December 2002 (Regional Water Board 2002a, 2002b). One additional small UST was discovered adjacent to Building 113A in September 2010 during the soil gas investigation (Figure 5). This UST will be investigated and removed in 2011 under the CERCLA program, under DTSC oversight.

In addition to the CAP investigations, additional pipelines discovered during the radiological removal actions in the vicinity of AOCs 24-E, 26-C, and 61-B were removed in Parcel B. A total of 1,500 linear feet of pipeline and any residual fuels were removed. The Draft Final Petroleum Hydrocarbon Site Closeout Report for Parcel B has been submitted (ITSI 2010b, 2010c).

Nine USTs have been removed or closed in place in Parcel G (see Figure 11) — including S-304, S-305, U302, U302-1, U302-3, S-435(1), and S-435(2), and two tanks closed in place (U439-1 and U439-2). Of these USTs, USTs S-304 and S-304 were petroleum storage tanks, and the other seven tanks were non-petroleum tanks. Two USTs associated with Building 304 (S-304 and S-305) and two USTs associated with Building 435 (S-435[1] and S-435[2]) were removed in 1991 (PRC Environmental Management, Inc. [PRC], Levine-Fricke-Recon, Inc. [LFR], and Uribe and Associates [U&A] 1996). Three solvent USTs associated with Building 302 were removed in 2000 (IT Corporation 2001). Two underground tanks near Building 439 were closed in place in 2000 because of the closeness to the building, and closure was requested from the Regional Water Board (IT Corporation 2001).

The Parcel G USTs ranged in size up to 7,000 gallons and contained gasoline, diesel, waste oil, hydraulic fluids, solvents, or fuel oils. Tanks were cleaned, and the tanks, piping, and appurtenances were removed. Piping was left in place at the point where it entered buildings and became inaccessible, at which point the piping was plugged with concrete. Samples were collected and analyzed and compared to screening criteria. Additional excavations occurred until sample analytical results indicated no screening criteria had been exceeded.

The location, capacity, contents, and status of each UST at Parcel G are summarized in Appendix G of the draft final Parcel D RI Report (PRC, LFR, and U&A 1996), Table 5-6 of the EBS report (Tetra Tech 1998), and Table 4-6 of the Waste Consolidation Report (Foster Wheeler 2003).

All Navy-owned petroleum USTs have been removed and are awaiting closure concurrence by the Regional Water Board. The Draft Final Petroleum Hydrocarbon Site Closeout Report has been submitted (ITSI 2010a). The Navy, Regional Water Board, and DTSC reached an agreement in November 2010 that non-petroleum tank closures (USTs and ASTs) at HPNS will be overseen by DTSC under the CERCLA program. The Navy will submit requests for regulatory closure of the non-petroleum tanks (which were previously submitted to the Regional Water Board) to DTSC. A tank closure section will be added to the parcel-wide CERCLA Remedial Action Completion Report to document the request to DTSC for closure. Upon completion of review, DTSC will approve closure of the non-petroleum tanks (DTSC 2010).

The Navy will retain the right to access Parcel G for any activities related to UST monitoring in Parcel G (Navy 2009b).

3.5 ABOVEGROUND STORAGE TANKS

Two out-of-service ASTs are present on Parcel B. An out-of-service, 100-gallon AST is present adjacent to Building 115. Historical use of this AST is unknown. An out-of-service, 250-gallon propane AST is present at Building 120 (MACTEC Engineering and Consulting, Inc. [MACTEC] 2008).

In 1998, the EBS identified 13 ASTs associated with buildings within Parcel G, ranging in size from less than 55 gallons to 1,600 gallons, and two tanks each near Buildings 435 and 439. The tanks were associated with storage of solvents, fuel oil, and wastewater. The EBS report

indicated four of the ASTs had been removed in 1998 (Tetra Tech 1998). One solvent AST associated with Building 302 was removed in 2000 (IT Corporation 2001), and closure will be conducted under DTSC's oversight (DTSC 2010). In 2003, the waste consolidation report identified ASTs as either Navy- or former tenant-owned, and Navy-owned ASTs were identified for removal, or depressurization of pressurized gas tanks, or disabling (Foster Wheeler 2003).

3.6 POLYCHLORINATED BIPHENYLS

This section addresses polychlorinated biphenyl (PCB)-bearing equipment and related potential PCB spill sites that would be addressed pursuant to the Toxic Substances Control Act. Between 1987 and 1988, 199 transformers located throughout HPNS were removed from their original locations by American Environmental Management Corporation and the Navy's Public Works Department (Harding Lawson Associates [HLA] 1990). Documentation of the locations of these removed transformers is incomplete. An additional removal and disposal effort involving 239 PCB-containing electrical equipment pieces was completed by the San Francisco Bay Public Works Center in 1996 (Tetra Tech 1998).

In 1994, after a basewide inspection of the former transformer locations, these areas were designated as IR Site 51 in the IR Program (HLA 1994). Since the SI was completed, the Navy has removed all transformers and oil-filled circuit breakers in IR Site 51 that contained PCBs at concentrations of 5 parts per million (ppm) or more as part of the BRAC operation and maintenance program at HPNS (Tetra Tech 1998). In 1998 and 1999, the Navy resurveyed and remediated PCB-containing oil stains on concrete foundations and floors in several buildings throughout IR Site 51 (Supervisor of Shipbuilding Conversion and Repair, Portsmouth, Virginia, Environmental Detachment [SSPORTS] 1998, 1999).

The 1998 EBS report discussed removal and replacement of PCB-containing electrical equipment at HPNS from 1988 through 1998, and stated that "the Navy will have no transformers or oil circuit breakers which are out-of-service with PCB concentrations of 5 ppm or greater at HPNS upon completion of the removal action in 1998" (Tetra Tech 1998).

Based on the findings in the 1998 EBS report in 2000 as part of an UST and AST closure effort, the Navy conducted a basewide survey to locate containerized hazardous materials and arranged for transportation and disposal of all materials located. During the 2000 survey, the Navy identified industrial process equipment (IPE) (defined as stand-alone machinery such as presses, punches, lathes and process pumps, excluding elevator motors, cranes, powerhouse generators, or fluorescent light ballasts). The IPE was identified as a potential concern because the equipment may contain residual PCBs. The 2000 survey reported no IPE was observed in Parcel B (IT Corporation 2001). A survey in 2004 confirmed absence of IPE in Parcel B (Tetra Tech Foster Wheeler Inc. [TtFW] 2004).

In 2002 and 2003, an IPE survey and an asbestos abatement and waste consolidation effort were conducted within Parcel D, including the area now identified as Parcel G. The survey identified 28 pieces of Navy-owned IPE in Parcel G, 11 of which may have used cutting oils and thus may have contained PCBs. The Navy did not sample the equipment that did not use oil, but sampled the 11 pieces of equipment that may have used cutting oil. Of the 11 pieces

of IPE sampled for PCBs, there were no detections in samples from seven pieces of equipment, and PCBs were detected below the 50 ppm threshold in three pieces of equipment (in Building 366). These items were labeled to indicate PCBs were present at less than 50 ppm, and one piece of equipment in Building 439 was removed for disposal. In addition to Navy-owned IPE in Parcel G, former tenant-owned IPE was identified and sampled for PCBs. Of the former tenant-owned equipment, eight pieces of IPE located in Buildings 302 (two) and 401 (six) exceeded the 50 ppm threshold, and former tenants were notified of their responsibility to decontaminate equipment or remove it from HPNS. The report also reviewed the issues identified in the EBS report, and confirmed that all issues had been addressed (Foster Wheeler 2003).

3.7 LEAD-BASED PAINT

Before 1978, the use of lead-based paint (LBP) was common throughout the United States, including military installations. Lead (from LBP) may exist in the soil surrounding buildings. LBP may have been stripped from buildings through normal weathering and maintenance over time. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. U.S. Department of Defense's (DoD) policy is to survey LBP hazards primarily associated with residential structures built before 1978 (DoD 1994). Navy policy does not require LBP surveys for commercial or industrial buildings unless the buildings will be reused for residential purposes. During preparation of the 1998 EBS, no residential housing was identified within Parcels B or G, so no LBP surveys were performed (Tetra Tech 1998).

In 2006, a LBP survey was conducted for Buildings 104, 115, 116, 117, 120, and 125 in Parcel B in the area leased to artists. Presence of LBP was confirmed in all painted surfaces and most of the window glazing compounds in all buildings. Building 103 was not tested for LBP, but is presumed to have LBP based on similarity in style and date of construction with the surveyed buildings (MACTEC 2008). The buildings not included in the area leased to artists within Parcel B have not been surveyed for LBP; but based on the dates of their construction, these are assumed to contain LBP.

Demolition of nonresidential buildings, structures, or facilities built before 1978 creates the potential for release of lead to soil. With respect to any such nonresidential buildings, structures, or facilities that the Transferee intends to demolish and redevelop for residential use after transfer, the Transferee may, under applicable law or regulation, be required by DTSC or other regulatory agencies to evaluate the soil adjacent to the nonresidential buildings, structures, or facilities for hazards posed by lead in soil. The Transferee further may be required by DTSC or other regulatory agencies to abate any hazards that may be present, after demolition and before occupancy of any newly constructed residential structures.

The Navy will disclose the potential presence of LBP in the deeds for the Early Transfer Property.

3.8 ASBESTOS-CONTAINING MATERIAL

From August through October 1993, buildings and structures at Parcel B were surveyed for asbestos-containing materials (ACM) (Mare Island Naval Shipyard 1994). The following buildings were found to contain asbestos and recommended for abatement and inclusion in an Operations and Maintenance (O&M) Program: 103, 104, 109, 113, 115, 116, 117, 120 (O&M only), 121, 123, 125 (O&M only), 128, 130, 131, 141, 144 (O&M only), 146, 156, 157, and 159 (O&M only). Asbestos was not found in Building 145. In 1995, the Navy Public Works Center remediated the following buildings at Parcel B: 103, 104, 109, 113, 115, 116, 117, 120, 121, 123, 125, 128, 130, 131, 141, 146, 156, 157, and 159 (Navy Public Works Center 1997). Since the asbestos remediation, buildings have been demolished, including 141, 142A, 144, 145, and 157.

In 2006 and 2007, reinspection occurred of previously identified ACM and potential asbestos-containing material (PACM) in Buildings 103, 104, 115, 116, 117, 120, and 125 in Parcel B. In-place asbestos was identified at all of these buildings. Damaged ACM was primarily limited to floor tiles and thermal system insulation (MACTEC 2008).

Asbestos abatement was conducted throughout Parcel G from 1995 through 1997 (Tetra Tech 1998). In 1995, ACM was observed in Buildings 302, 303, 304, 324, 351, 351A, 363, 364, 365, 401, 402, 404, 407, 411, 418, 419, and 421. In response, asbestos abatement was conducted in Buildings 302, 303, 304, 351A, 363, 364, 365, 401, 404, 407, 411, and 418, and on piping in Building 324 (Tetra Tech 1998). Building 402 was observed to be in good condition; Building 419 was observed to have asbestos siding; and kilns with asbestos insulation were abated in Building 351 (Tetra Tech 1998).

In 2003, additional inspection and abatement occurred at Parcel G, including removing damaged exterior transite panels and siding on the ground, removing or repairing thermal system insulation, or encapsulating or removing damaged transite wallboard at the following buildings: 303, 324, 351, 365, 401, 408, 409, 411, 419, 420, and 435 (Foster Wheeler 2003). Building 408 has since been demolished.

3.9 RADON

Radon is a colorless and odorless radioactive gas produced by radioactive decay of naturally occurring uranium to radium. Radon gas is a byproduct of radium, which is found at high concentrations in rocks containing uranium, granite, shale, phosphate, and pitchblende. Atmospheric radon is diluted to insignificant concentrations. Radon in soil, however, can enter a building through small spaces and openings, accumulating in enclosed areas such as basements.

Radon gas is also emitted by the decay of radium isotope Ra-226 (NAVSEA 2004). Ra-226 was detected at radiologically impacted sites at Parcels B and G. The Navy identified remedial action objectives for Ra-226 in the RODs for Parcels B and G (ChaduxTt 2009; Navy 2009a). DoD policy does not require assessment or mitigation of radon prior to transfer of BRAC property, unless required by applicable law (DoD 1995).

3.10 ADJACENT PARCELS

Parcels surrounding Parcel B include Parcel F (including San Francisco Bay and piers extending into the bay) to the north; non-Navy property to the west and south; and Parcels UC-2 and C to the east and south. Contaminated groundwater from adjacent IR Sites 6 and 25 in Parcel C may affect Parcel B. The Amended ROD for Parcel B identifies the ICs and engineering controls for buildings to address potential vapor intrusion from VOC plumes in groundwater at IR Sites 6 and 25 (see Figure 5).

Properties surrounding Parcel G include Parcel UC-1 to the north, Parcels D-1 and C to the east, Parcels D-1 and E to the south, and Parcel E to the west. Based on previous investigations, conditions at these properties are not likely to affect Parcel G. Contaminants in groundwater at adjacent sites are not likely to migrate to Parcel G because groundwater will migrate from Parcel G toward other parcels, based on the current (September 2010) groundwater elevations. There is a limited potential for migration of groundwater from Parcel E, where a VOC plume (TCE) exists, onto the west side of Parcel G; however, the plume is scheduled for treatment as part of a treatability study at Parcel E and will not likely affect Parcel G.

A potential pathway for ingestion of contaminants in soil is through consumption of homegrown produce that has taken up those contaminants; therefore, growing vegetables, fruits, or any edible items in native soil for human consumption will be prohibited. In addition, should neighboring sites be excavated, dust control measures will be required to prevent contaminants from becoming airborne. These measures may include spraying water during excavations and on truck haul routes, as well as spraying adhesive soil binders (tackifiers) on excavation sidewalls and spoil piles. Workers and neighbors will not be affected when these preventive measures are in place. Therefore, no additional notifications or restrictions are required to address conditions or activities on adjacent sites.

Sandblast grit or spent abrasive material has been identified throughout HPNS. Remedial actions have removed the sandblast grit to the extent it has been identified. As indicated in Section 3.2.5, radioactive materials were not detected in any of the sandblast grit samples. Any material present in adjacent parcels is not likely to affect Parcels B or G, because the metals generally do not mobilize in soils, and the radioactive materials will be addressed by the ongoing removal action or a soil cover.

4.0 ANALYSIS OF FUTURE LAND USE

This section describes the anticipated future use of the Early Transfer Property to be transferred and discusses whether the anticipated land use could be expected to result in exposure to CERCLA hazardous substances.

4.1 FUTURE LAND USE

The Amended ROD for Parcel B issued by the Navy identifies the future uses of the Early Transfer Property, after the environmental remediation is complete, as research and development, mixed uses, educational and cultural, and open space (ChaduxTt 2009). The

Parcel G ROD identifies the future uses of Parcel G as mixed uses, educational and cultural, and open space (Navy 2009a). The City has identified a National Football League stadium as another possible future use consistent with the Parcel G ROD (SFRA 2010).

4.2 ANALYSIS OF WHETHER LAND USE RESTRICTIONS ARE NECESSARY TO PROTECT HUMAN HEALTH OR THE ENVIRONMENT

As discussed in Section 6.3 of this FOSET, ICs have been identified in the Parcels B and G RODs and the LUC RDs and engineering controls will be described in the remedial action work plans for Parcels and G. These ICs will be necessary during the covenant deferral period to protect human health and the environment and to prevent disruption of the investigation and remediation activities. The ICs identified in the Parcel B and G RODs and the LUC RDs will be incorporated into the Quitclaim Deed(s) and CRUP(s).

More specifically, land use and activity restrictions are incorporated into two separate legal instruments as provided in the Navy/DTSC MOA:

1. Restrictive covenants included in Quitclaim Deed(s) from the Navy to the SFRA.
2. Restrictive covenants included in "Covenant(s) to Restrict Use of Property" entered into by the Navy and DTSC as provided in the Navy/DTSC MOA and consistent with the substantive provisions of Cal. Code Regs. Title 22 § 67391.1.

The CRUP(s) incorporate the land use restrictions into environmental restrictive covenants that run with the land and that are enforceable by DTSC and EPA against SFRA and future transferees. The Quitclaim Deed(s) include the identical land use and activity restrictions in environmental restrictive covenants that run with the land and that will be enforceable by the Navy against future transferees. The activity restrictions in the CRUP(s) and Deed(s) are addressed in the Parcels B and G Pre-Remedial Action Completion Report RMP and the Parcels B and G Post-Remedial Action Completion Report RMP prepared by the City, and the Parcels B and G LUC RD reports prepared by the Navy. The RMPs and LUC RDs are referenced in the applicable CRUPs and Deeds. The RMPs and LUC RDs specify soil, soil vapor, and groundwater management procedures for compliance with the selected remedies. The RMPs and LUC RDs identify the roles of local and state governments, and the Federal Government in administering the RMPs and LUC RDs, and include procedures for any necessary sampling and analysis requirements, worker health and safety requirements, and any necessary site-specific construction and/or use approvals that may be required. Land use restrictions apply to specified portions of the Early Transfer Property and are described in the CRUP(s) between the Navy and DTSC, and the Quitclaim Deed(s) conveying real property at HPNS.

The early transfer areas of Parcels B and G have not yet obtained regulatory closure. Restrictions throughout the early transfer areas of Parcels B and G covered by this FOSET (see Section 6.0) apply in accordance with the CRUPs, Quitclaim Deed(s), the Parcels B and G Pre-Remedial Action Completion Report RMP, the Parcels B and G Post-Remedial Action Completion Report RMP, the LUC RD reports, and if required, any other work plan or document approved in accordance with these referenced documents.

5.0 REQUIREMENTS FOR REMEDIAL, CORRECTIVE, AND RESPONSE ACTIONS AND OPERATIONS

This section describes any ongoing or planned remedial action or corrective actions, together with the schedule for the remedial or response actions. The Navy and the SFRA plan to enter into an ETCA under which the SFRA would assume responsibility for conducting the remedial actions required for the Early Transfer Property.

5.1 INSTALLATION RESTORATION PROGRAM

Under the ETCA, the SFRA will assume responsibility for achieving regulatory closure for all of Parcels B and G in the Early Transfer Property in accordance with all applicable state and federal regulations. The SFRA will be required to follow the schedule as set forth in the Administrative Order on Consent between the SFRA and EPA. The Administrative Order on Consent is expected to require the types of activities and outcomes presented in the following sections.

5.1.1 Parcel B

As described in Section 3.2.1, the final remedy in the Amended ROD for Parcel B addresses remedies for soil, groundwater, and radiologically impacted structures and soil.

The remedial action for Parcel B selected in the Amended ROD for Parcel B addresses metals and organic compounds in soil and sediment, VOCs and metals in groundwater in the A-aquifer, VOC vapors in soil gas, and radionuclides in structures (such as buildings) and in soil. To address soil contamination in the upland portions of the parcel, the remedy consists of excavation and off-site disposal, durable covers, and ICs. Along the shoreline, the remedy consists of revetments and ICs to prevent exposure to COCs in sediment and to prevent erosion. VOCs in groundwater will be treated with a biological substrate. The groundwater remedy also includes monitoring and ICs to address contamination. The remedy for VOC vapors in soil gas includes operation of a soil vapor extraction system, monitoring, and ICs (ChaduxTt 2009).

Areas where remedial actions or removal actions are planned are identified on Figure 5 and Figure 7.

In addition to the CERCLA IR sites, eight TPH-commingled AOCs have been identified where CERCLA-regulated chemicals are commingled with petroleum-related compounds (see Figure 5). Of the eight AOCs, four recommended for no further action are 10-B, 10-C, 26-B, and 61-A. Additional sampling was conducted for the remaining four TPH-commingled AOCs (7-E, 24-C, 46-C, and 61-B) and the Draft Final Petroleum Hydrocarbon Site Closeout Report for Parcel G has been submitted (ITSI 2010a). Upon approval by the Regional Water Board, the regulatory closure of the petroleum AOCs and TPH-commingled AOCs will be documented in closure letters to be issued by the Regional Water Board.

5.1.2 Parcel G

As described in Section 3.2.2, the remedial action selected in the ROD for Parcel G addresses remedies for soil, groundwater, and radiologically impacted structures and soil.

The selected remedial action for Parcel G addresses metals (especially arsenic, lead, and manganese) and PAHs in soil, VOCs and metals (chromium VI and nickel) in groundwater in the A-aquifer, and radionuclides in structures (such as buildings) and in soil. To address soil contamination, the remedy consists of excavation and off-site disposal, durable covers, and ICs. The groundwater remedy includes monitoring and ICs to address any residual VOC contamination following the ZVI treatment, which was completed in 2008 (Alliance Compliance Group 2010). Areas where remedial actions or removal actions are planned are identified on Figure 6 and Figure 7.

Groundwater plumes in Parcel G associated with IR Sites 9 and 71 were addressed during a treatability study in 2008 with injections of ZVI to treat VOCs identified as COCs in Parcel G groundwater.

In addition to the CERCLA IR sites, three TPH-commingled AOCs have been identified through the petroleum program (Figure 5). Additional investigation at three TPH-commingled AOCs (33-B, 37-A, and IR34B018) was completed as part of the summer 2009 groundwater data gaps investigation.

5.2 RESPONSE ACTION SCHEDULE

A response action schedule will be developed in the Administrative Order on Consent for sites that have not reached regulatory closure to ensure that early transfer will not delay any necessary response actions on the Early Transfer Property. The Administrative Order on Consent will establish the milestones for the Early Transfer Property and will not substantially delay any necessary response actions at the Early Transfer Property.

5.3 CONDITIONS FOR WHICH THE NAVY RETAINS RESPONSIBILITY

Responsibility for all known environmental conditions requiring regulatory closure, is being transferred to the SFRA, with accompanying appropriate funds to allow for completion of remaining regulatory obligations pursuant to an ETCA.

6.0 NOTICES, COVENANTS, EASEMENTS, AND USE RESTRICTIONS

The environmental documents listed in Section 9.0 were evaluated to identify environmental factors that may warrant notices, covenants, easements, and use restrictions to ensure that the intended use of the Early Transfer Property is consistent with protection of human health and the environment during the covenant deferral. The following sections discuss the notices, covenants, easements, and use restrictions related to the Early Transfer Property. These notices, covenants, easements, and use restrictions apply to the footprint of the entire Early Transfer Property unless specifically noted otherwise below.

6.1 NOTICES

This section presents notifications for the following environmental factors that will be provided in conjunction with the FOSET.

6.1.1 Hazardous Substances

As required by CERCLA § 120(h)(l) and codified at Title 40 CFR § 373.1, notification of hazardous substance storage or releases is required for transfer of federal property at which any hazardous substance was stored for 1 year or more, or was known to have been released or disposed of. Notification must include (1) the types and quantities of such hazardous substances; (2) the time at which such storage occurred; and (3) the types, quantities, and time periods associated with any releases or disposal of hazardous substances. Such information must be made available on the basis of a complete search of agency files.

The notice required by Title 40 CFR § 373.1 on past storage of hazardous substances applies only when one or more hazardous substances have been stored in quantities greater than or equal to the larger of (1) 1,000 kilograms or (2) the CERCLA reportable quantity for each hazardous substance, which is listed at Title 40 CFR § 302.4. Hazardous substances that are also listed under Title 40 CFR § 261.30 as "acutely hazardous wastes" and that are stored for 1 year or more are subject to the notice requirement when stored in quantities greater than or equal to 1 kilogram. Under this notification requirement, hazardous substances do not include petroleum products.

Appendix A lists the hazardous substances in the Early Transfer Property that require notification under CERCLA § 120(h) (3)(A)(ii) and (B).

The Transferee is hereby notified of the following conditions at Parcels B and G:

- The Transferee is hereby notified that the installation has been identified as a NPL site under CERCLA, as amended.
- For Parcel B, the Transferee is hereby notified that concentrations of PCBs, metals, PAHs, and pesticides have been detected in soil on portions of the Early Transfer Property; VOCs and metals (specifically chromium VI, copper, lead, mercury, and selenium) have been detected in groundwater on portions of the Early Transfer Property; and localized areas have been identified with unacceptable cancer risk for residential use or potential to impact aquatic life in San Francisco Bay.
- For Parcel G, the Transferee is hereby notified that concentrations of metals (especially arsenic, lead, and manganese) and PAHs have been detected in soil on portions of the Early Transfer Property; VOCs and metals (specifically chromium VI and nickel) have been detected in groundwater on portions of the Early Transfer Property; and localized areas have been identified with unacceptable cancer risk for residential use or potential to impact aquatic life in San Francisco Bay.

- Transferee acknowledges that the Government has provided it with a copy of the installation FFA. The Government will provide the Transferee with a copy of any amendments thereto.

- The Transferee is hereby notified of IR investigations or activities anticipated to extend within the Early Transfer Property.

- The Transferee is hereby notified of groundwater plumes in Parcel G associated with IR Sites 9 and 71 that were treated during a treatability study in 2008 (Alliance Compliance Group 2010) with injections of ZVI to treat VOCs identified as COCs in Parcel G groundwater. The Transferee is hereby notified that the restrictions in Parcel G as shown on Figure 9 will remain in place until concurrence from the BCT has been reached that no further action is required for VOCs in groundwater.

- The Transferee is hereby notified of the presence of groundwater monitoring wells on the Early Transfer Property.

6.1.2 Pesticides

The Transferee is hereby notified that the Early Transfer Property may contain pesticide residue from pesticides that have been applied in the management of the Early Transfer Property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with FIFRA (7 U.S.C. § 136, et seq.), its implementing regulations, and according to the labeling provided with such substances. It is the Navy's position that it shall have no obligation under the covenants provided pursuant to § 120(h)(3)(A)(ii) of CERCLA, 42 U.S.C. § 96720(h)(3)(A)(ii), for the remediation of legally applied pesticides.

6.1.3 Spent Abrasive Material

The Transferee is hereby advised of the potential presence of spent abrasive blast material or sandblast grit within the Early Transfer Property.

6.1.4 Storage Tanks

- Transferee is hereby notified of the presence of out-of-service ASTs adjacent to Buildings 115 and 120 in Parcel B. Two USTs formerly present in Parcel B were removed in 1993. The Regional Water Board issued regulatory case closure for the two USTs in December 2002.

- The Transferee is hereby notified that nine USTs formerly present in Parcel G were removed or closed in place in 1991 and 2000, and one former AST was removed in 2000. Regulatory case closure is pending for the USTs.

- The Transferee is hereby notified that a UST adjacent to Building 113A is present on Parcel B and will be removed by the Navy. Regulatory case closure procedures have been initiated.

6.1.5 Polychlorinated Biphenyls

- The Transferee is hereby informed that fluorescent light ballasts containing PCBs may be present on the Early Transfer Property at Parcel B. The Transferee is hereby notified that the PCBs found in Building 115 IPE have been removed.

- The Transferee is hereby informed that fluorescent light ballasts containing PCBs may be present on the Early Transfer Property at Parcel G. The Transferee is hereby notified that PCBs have been detected at low levels within IR Sites 9 and 33, and at higher levels in IR Site 37, where a removal action was performed and no further action is anticipated. The waste consolidation report assessed IPE in Buildings 302, 401, 402, 407, 411, and 435 for PCBs. Ballasts and light fixtures were removed from Buildings 302, 323, 352, 366, 407, 411, and 439.

- The Transferee is hereby informed that open PCB sites await regulatory closure throughout Parcel G, as disclosed in the 2003 waste consolidation report (Foster Wheeler 2003). IPE identified in the 2003 Foster Wheeler report indicated former tenant-owned equipment should be assessed for potential PCB content in the following buildings: 302, 401, 402, 407, 411, and 435. It is assumed the equipment remains in place at this time.

6.1.6 Lead-Based Paint

A notification will be included in the deed that buildings and structures built before 1978 within the Early Transfer Property are presumed to contain LBP based on their age. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. In the deed, the transferee will acknowledge receipt of available records and reports pertaining to LBP and/or LBP hazards.

- The Transferee is hereby advised that LBP and window glazing compounds are present in the buildings on the Early Transfer Property, and that the soil adjacent to the buildings may contain lead concentrations resulting from LBP.

- The Transferee is hereby informed and does acknowledge that the following buildings in Parcel B were constructed or rehabilitated prior to 1978: 103, 104, 109, 113, 113A, 115, 116, 117, 120, 121, 122, 123, 125, 128, 130, 131, 133, 140, 146, 156, 159, and 163; these are presumed to contain LBP. Lead from paint, paint chips, and dust can pose health hazards if not managed properly.

- The Transferee is hereby informed and does acknowledge that all buildings in Parcel G constructed or rehabilitated prior to 1978 (including 302, 303, 304, 323, 324, 351, 352, 363, 366, 401, 402, 404, 404A, 407, 411, 411A, 411B, 412, 415, 416, 417, 418, 419, 420, 421, 424, 435, 436, 437, 438, 439, and D-A) are presumed to contain LBP. Lead from paint, paint chips, and dust can pose health hazards if not managed properly.

- The Transferee acknowledges that it has inspected or has had the opportunity to inspect the Early Transfer Property as to its LBP content and condition and any hazardous or environmental conditions relating thereto. The Transferee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the Early Transfer Property, including, without limitation, any LBP hazards or concerns.

6.1.7 Asbestos-Containing Material

In the deed, the Transferee will acknowledge receipt of available records and reports pertaining to ACM.

- The deed will contain a notice that the Transferee is hereby informed and does acknowledge hazardous materials in the form of asbestos or ACM have been found and are otherwise presumed to exist in buildings and structures in the Parcel B transfer area, including Buildings 103, 104, 109, 113, 115, 116, 117, 120, 121, 123, 125, 128, 130, 131, 146, 156, and 159.

- The deed will contain a notice that the Transferee is hereby informed and does acknowledge hazardous materials in the form of asbestos or ACM have been found and are otherwise presumed to exist in buildings and structures in the Parcel G transfer area, including Buildings 302, 303, 304, 324, 351, 351A, 363, 401, 402, 404, 407, 411, 418, 419, 420, 421, and 435.

- At HPNS, a naturally occurring asbestos mineral is found in the form of chrysotile, which occurs in veinlets scattered throughout the serpentinite bedrock. The type of asbestos mineral considered the most harmful is crocodilite, which is not found at HPNS. Since the only release of asbestos fibers to the air would be through excavating and crushing the serpentinite bedrock, the excavation prohibition is protective of Transferee personnel, as no exposure pathway exists from authorized Transferee activities. Government remedial activities are subject to health and safety plans that include dust-suppression techniques in association with excavations.

6.2 RESPONSE ACTION ASSURANCES

As part of the early transfer, CERCLA § 120(h)(3)(C)(ii) requires that the deed or other agreement shall contain the following assurances:

- Provide for any necessary restrictions on the use of the Early Transfer Property to ensure the protection of human health and the environment.

- Provide use restrictions as necessary to ensure that required RIs, response actions, and oversight activities will not be disrupted.

- Provide that all necessary response actions will be taken, and identify the schedules for investigation and completion of all necessary response actions, as approved by the appropriate regulatory agencies.

- Provide that the federal agency responsible for the Early Transfer Property subject to transfer will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for the investigation and completion of all necessary response actions, subject to congressional authorizations and appropriations.

Each of these assurances is discussed further in the following subsections.

Section 6.3 (covenants, easements, and restrictions) describes covenants to be included in both deeds and CRUPs that address assurances under the four categories listed above.

6.2.1 Restrictions to Ensure Protection of Human Health and the Environment and to Ensure the Required Response Actions and Oversight Activities Will Not be Disrupted

Restrictions necessary to protect human health and the environment as well as to ensure that the required response actions and oversight activities are not disrupted, are discussed in Section 6.3.3.

6.2.2 Response Action Assurances and Schedules for Investigation and Completion of Necessary Response Actions

The Navy's basis for ensuring all necessary response actions will be taken and identifying the schedules for investigation and completion of all necessary response actions is that the Administrative Order on Consent between the SFRA and EPA (1) ensures that the SFRA will remediate contamination at the site, and (2) establishes milestones for the response actions for sites that have not reached regulatory closure.

Under the planned ETCA, the Navy will provide funds for the environmental remediation efforts of the SFRA so the SFRA can comply with the requirements of the ETCA. The ETCA will benefit both the Navy and the SFRA because it will (1) facilitate early transfer and immediate reuse by allowing the SFRA to perform certain environmental remediation activities and (2) concurrently facilitate redevelopment. Under the ETCA, the SFRA will also agree to purchase an environmental insurance policy insuring against cost overruns and paying for cleanup of previously undiscovered conditions.

6.2.3 Budget Requests

The ETCA will provide for the Navy to pay funds to the SFRA in exchange for environmental services to achieve regulatory closure throughout the Early Transfer Property subject to the terms and conditions of the ETCA.

6.3 COVENANTS, EASEMENTS, AND RESTRICTIONS

This section, in conjunction with Section 6.2, describes the covenants, easements, and restrictions that will be recorded in the deeds of transfer and CRUPs for the Early Transfer Property.

6.3.1 Remedial Obligation

The deed from the Navy to the SFRA will include a covenant by the United States, made pursuant to the provisions of CERCLA § 120(h)(3)(A)(ii)(II), warranting that the United States will conduct any additional remedial action found to be necessary after the Early Transfer Property has been transferred. The covenant will not apply in any case in which the person or entity to whom the real property is transferred is a potentially responsible party with respect to such property.

6.3.2 Right of Access

The deed from the Navy to the SFRA will reserve and the SFRA will grant to the United States an appropriate right of access to the Early Transfer Property, pursuant to the provisions of CERCLA § 120(h)(3)(A)(iii), to enable the United States and others, including the State of California, to enter said parcels in the event any remedial or corrective action is found to be necessary after the date on which the Early Transfer Property is transferred.

6.3.3 Restrictions Necessary to Protect Human Health and the Environment

As discussed in Section 4.2 of this FOSET, in the Parcel B and G RODs, the Navy selected IC land use restrictions that are necessary to protect human health and the environment. These ICs are detailed further in the LUC RD reports. The deeds and the CRUPs described in Section 1.1 of this FOSET will require the Transferee to maintain conformance with the ICs at Parcels B and G which generally require; maintaining the integrity of the soil cover and revetment; restricting residential use and development of the site; and prohibiting the extraction and use of groundwater for any purpose other than monitoring, remediation, or construction dewatering. Specifically, the LUC RDs and CRUPs for Parcels B and G specify the following restrictions and prohibited activities (ChaduxTt 2010a, 2010b).

6.3.3.1 Prohibited Activities

The following activities are prohibited throughout HPNS Parcels B and G:

- Growing vegetables, fruits, or any edible items in native soil for human consumption
- Use of groundwater.

6.3.3.2 Additional Land Use Restrictions for Areas Designated for Open Space, Educational/Cultural, and Industrial Reuse

The following land uses for Early Transfer Property areas designated for open space, educational/cultural, and industrial land uses in the SFRA's reuse plan (SFRA 1997) are restricted unless prior written approval is granted by the FFA signatories:

- A residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation
- A hospital for humans

- A school for persons under 21 years of age
- A daycare facility for children.

6.3.3.3 Restricted Activities

The following activities are restricted throughout Parcels B and G unless prior written approval for these activities is granted by the FFA signatories as provided in the Pre-Remedial Action Completion Report RMP and the Post-Remedial Action Completion Report RMP prepared by the SFRA:

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape," for example, concrete roadways, parking lots, foundations and sidewalks; (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates movement of known contaminated groundwater.
- Alteration, disturbance, or removal of any component of a response or cleanup action (including but not limited to revetment walls and shoreline protection and soil cap/containment systems); groundwater extraction, injection and monitoring wells and associated piping and equipment; or associated utilities.
- Extraction of groundwater and installation of new groundwater wells with the exception of construction, operation, and maintenance responses or remedial actions as required or necessary under the CERCLA remedy.
- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

6.3.3.4 Construction of Enclosed Structures

Risk to human health may exist from potential intrusion of VOC vapors into structures built at Parcel B in areas outside of Redevelopment Block 4 and in all of Parcel G. *Consequently, portions of these areas are included in the ARIC for VOC vapors at Parcels B and G (Sealaska 2010 – forthcoming).* The reduction in potential risk can be achieved through engineering controls or other design alternatives that meet the specifications that will be set forth in the remedial action work plans for Parcels B and G. These specifications will include, but will not be limited to DTSC's "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Interim Final" dated December 15, 2004, and revised on February 7, 2005.

Any proposed construction of enclosed structures within the ARIC for VOC vapors at Parcels B and G must be approved by the FFA signatories prior to construction in order to ensure that potential unacceptable risk from VOC vapors is reduced to acceptable levels. Enclosed structures within the ARIC for VOC vapors at Parcels B and G shall not be occupied until the Owner has requested and obtained FFA signatory approval (through approval of a Remedial Action Completion Report or similar document) that any necessary engineering controls or design alternatives have been properly constructed and that VOC vapor risk levels are acceptable. Alternatively, the ARIC for VOC vapors at Parcels B and G may be modified by the FFA signatories as the soil or groundwater contamination areas that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs which establish that areas now included in the ARIC for VOC vapors do not pose an unacceptable potential exposure risk due to VOC vapors.

6.3.4 Disruption of Remedies

The Navy has determined that certain restrictions are necessary at Parcels B and G to ensure the required investigations, response actions, and oversight activities will not be disrupted, as specified in the CRUP and deed. The CRUP and deed will specify that these restrictions are released when the FFA signatories determine that no further action is required in those specified areas. The environmental restrictions will be binding on the SFRA and future owners.

7.0 RESPONSIVENESS SUMMARY

This section in the Final FOSET will summarize the Navy's responses to all federal and state regulatory agencies' comments on the Draft FOSET and all public comments received on the Draft Final FOSET during the 30-day notice period. The comments and responses are presented in Appendix B (to be provided in the final FOSET).

8.0 FINDING OF SUITABILITY FOR EARLY TRANSFER

The Early Transfer Property has been assessed and evaluated for (1) the presence of hazardous substances and contamination thereon, (2) environmental impacts anticipated from the intended use thereof, and (3) the adequacy of ICs to ensure that the required response actions are not delayed and that the proposed use of the Early Transfer Property is consistent with the protection of human health and the environment. The assessment and evaluation have adequately demonstrated that the proposed use of the Early Transfer Property by the SFRA for the uses identified herein is consistent with protection of human health and the environment, subject to the notifications in this document.

Deferral of the deed covenant required by CERCLA § 120(h)(3)(C) must be supported by a determination that the Early Transfer Property is suitable for transfer, based on the following:

1. The Early Transfer Property is suitable for transfer for the use intended by the Transferee, and the intended use is consistent with the protection of human health and the environment.

2. The deed or other agreement proposed to govern the transfer contains response action assurances set forth in clause (ii) [CERCLA § 120(h)(3)(C)(ii)].

3. The federal agency requesting deferral (Navy) has provided notice, by publication in a newspaper of general circulation in the vicinity of the Early Transfer Property, of the proposed transfer and of the opportunity for the public to submit, within a period of not less than 30 days after the date of the notice, written comments on the suitability of the Early Transfer Property for transfer.

4. The deferral and the transfer of the Early Transfer Property will not substantially delay any necessary response action at the Early Transfer Property.

The Navy finds the requirements of CERCLA § 120(h)(3)(C)(ii) have been adequately addressed and evaluated to ensure that the deed from the Navy to the SFRA contains assurances that:

1. Provide for any necessary restrictions on the use of the Early Transfer Property to ensure the protection of human health and the environment.

2. Provide that there will be restrictions on use of the Early Transfer Property as necessary to ensure that required RIs, response actions, and oversight activities will not be disrupted.

3. Provide that all necessary response actions will be taken and identify the schedules for investigation and completion of all necessary response actions, as approved by the appropriate regulatory agency.

4. Provide that the Navy will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for investigation and completion of all necessary response actions, subject to congressional authorizations and appropriations.

The Navy finds the Early Transfer Property to be suitable for early transfer.

Signature: _____ Date: _____

Ms. Laura Duchnak
Director, BRAC Program Management Office West

9.0 SUPPORTING ENVIRONMENTAL DOCUMENTATION

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ITSI. 2010a. "Draft Final Petroleum Hydrocarbon Site Closeout Report, Parcels D-1, D-2, and G (Former Parcel D), Hunters Point Shipyard, San Francisco, California." October.

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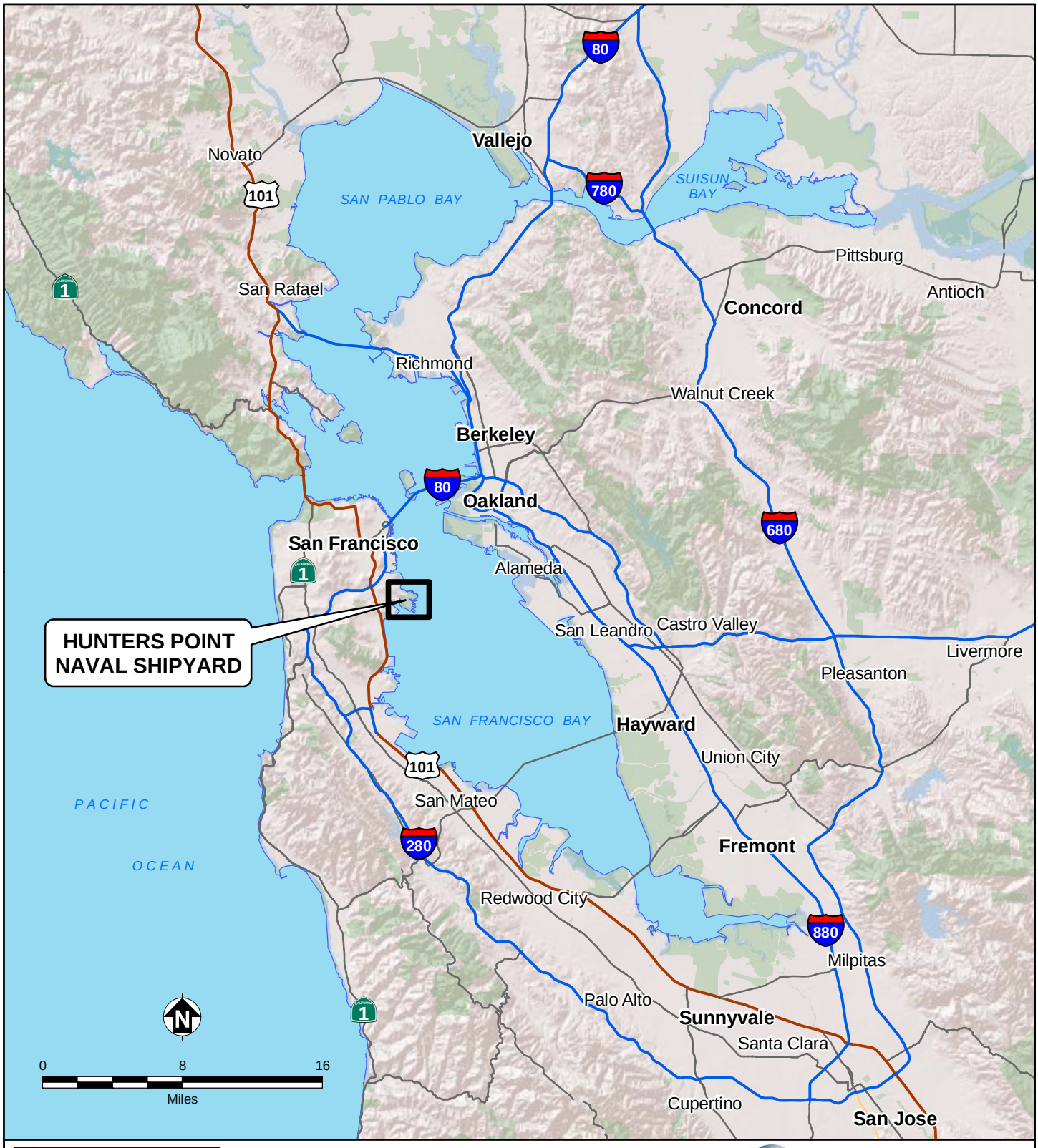
FIGURES



BRAC Base Realignment and Closure
FOSET Finding of Suitability for Early Transfer
PMO Program Management Office

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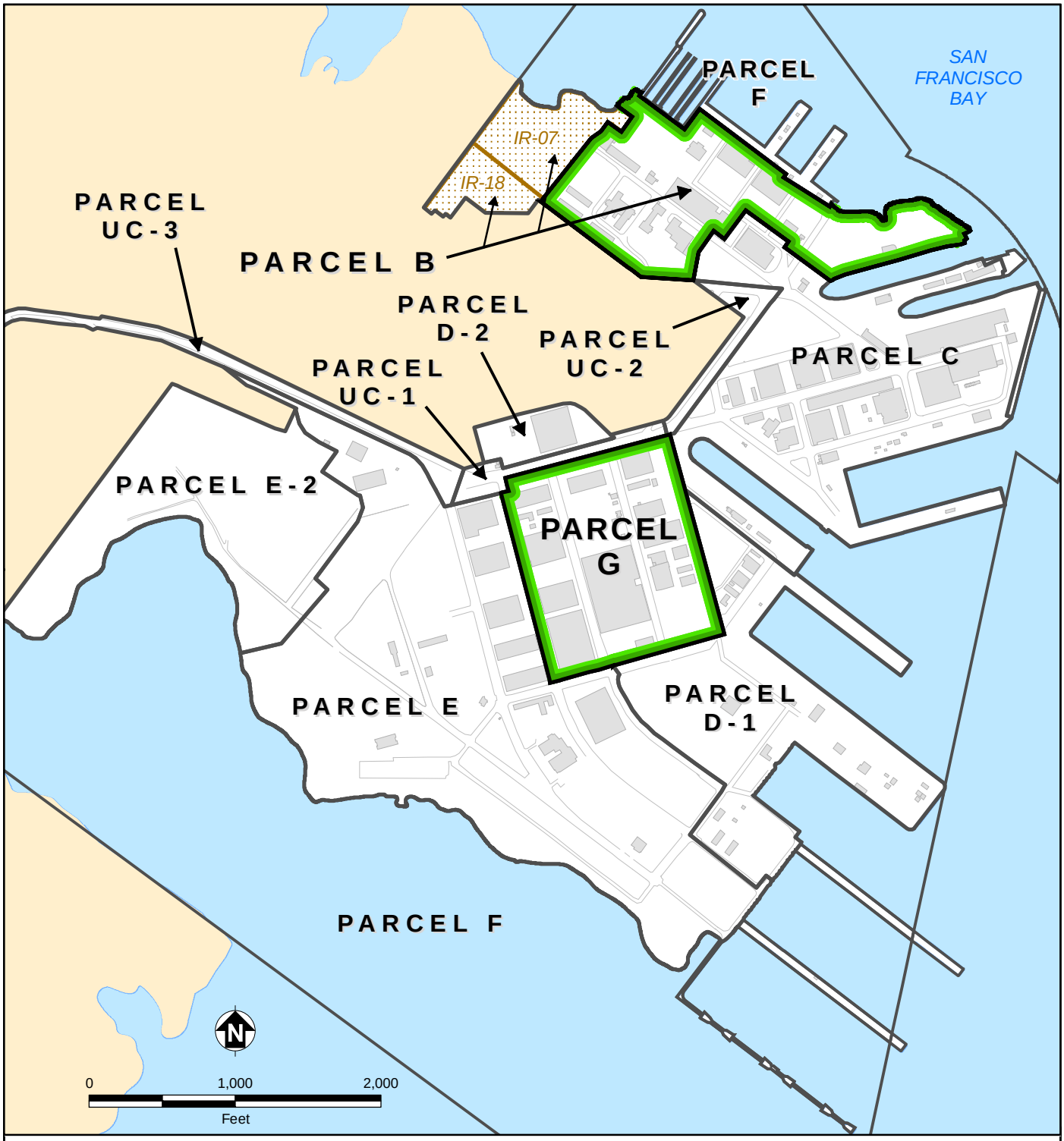
Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 1
LOCATION OF
HUNTERS POINT NAVAL SHIPYARD

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\hps_location_map.mxd TtEMI-OAK andrew.bley



Location of Hunters Point Naval Shipyard

- Early Transfer Property
- IR Sites 07 and 18 (Parcel B)
- Parcel Boundary
- Building
- Non-Navy Property
- Road Edge

BRAC	Base Realignment and Closure
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PMO	Program Management Office
UC	Utility Corridor

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 2

EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_and_g_foset_parcel_location_map.mxd TtEMI-OAK andrew.bley

Non-Navy Property

San Francisco Bay

PARCEL F

IR-07

IR-18

Subparcel NOS

Subparcel N1

Subparcel N2

Subparcel N3

Subparcel N4

Subparcel N5

Subparcel N6

Subparcel N7

Subparcel N8

Subparcel N9

Subparcel N10

Subparcel N11

Subparcel N12

Subparcel N14

Subparcel N15

Subparcel N16

Subparcel N17

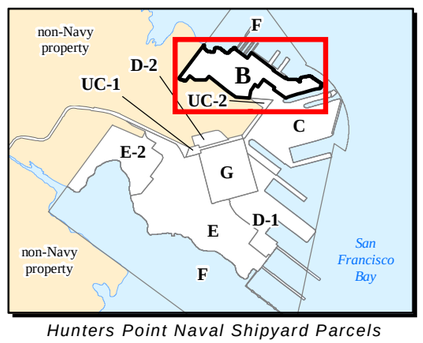
Subparcel HOS (small sliver)

103 104 109 113 113A 114 115 116 117 118 119 120 121 122 123 125 128 130 131 133 140 141 142 A 144 145 146 S-146 156 157 159

PARCEL UC-2

PARCEL C

Non-Navy Property



Hunters Point Naval Shipyard Parcels

- Early Transfer Property
- EBS Subparcel Boundary
- Parcel Boundary
- IR Sites 07 and 18 (Parcel B)
- Building, Existing
- Building, Demolished
- San Francisco Bay
- Sanitary/Storm Sewer, Removed

Note:
Features outside of Parcel B are displayed on this map but faded.

BRAC	Base Realignment and Closure
EBS	Environmental Baseline Survey
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PMO	Program Management Office
UC	Utility Corridor

0 250 500
Feet

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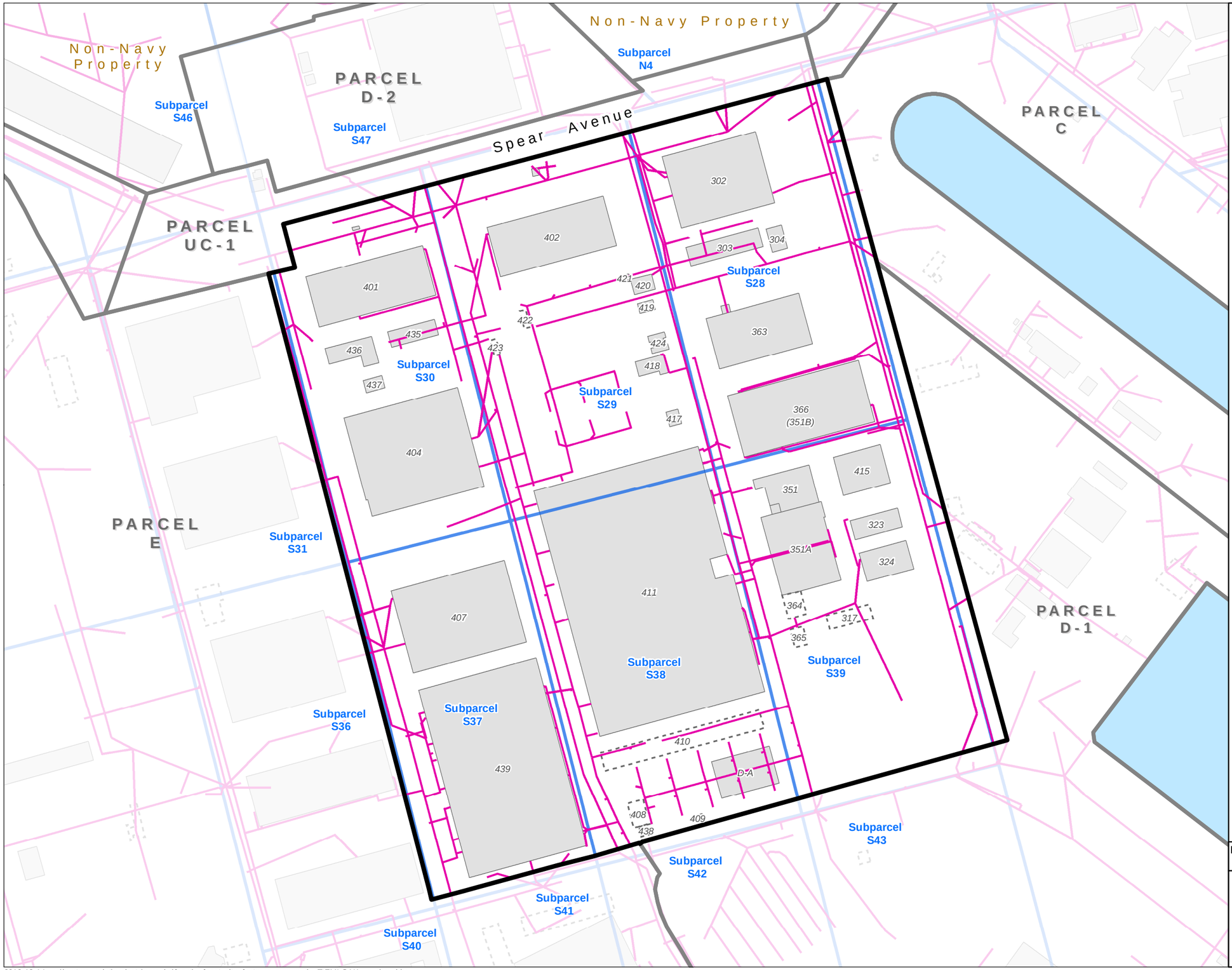
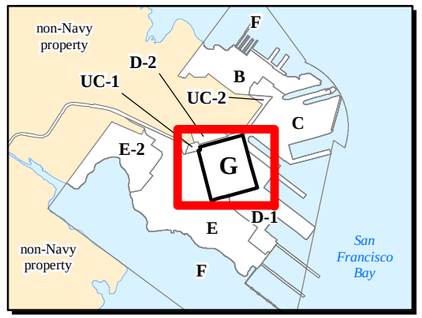
Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 3
SITE FEATURES, PARCEL B
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_foset_site_features_map.mxd TtEMI-OAK andrew.bley





Hunters Point Naval Shipyard Parcels

- Early Transfer Property
- Parcel Boundary
- EBS Subparcel Boundary
- Building, Existing
- Building, Demolished
- San Francisco Bay
- Sanitary/Storm Sewer, Removed

Note: Features outside of Parcel G are displayed on this map but faded.

BRAC	Base Realignment and Closure
EBS	Environmental Baseline Survey
FOSET	Finding of Suitability for Early Transfer
PMO	Program Management Office
UC	Utility Corridor

N

0 200 400
Feet

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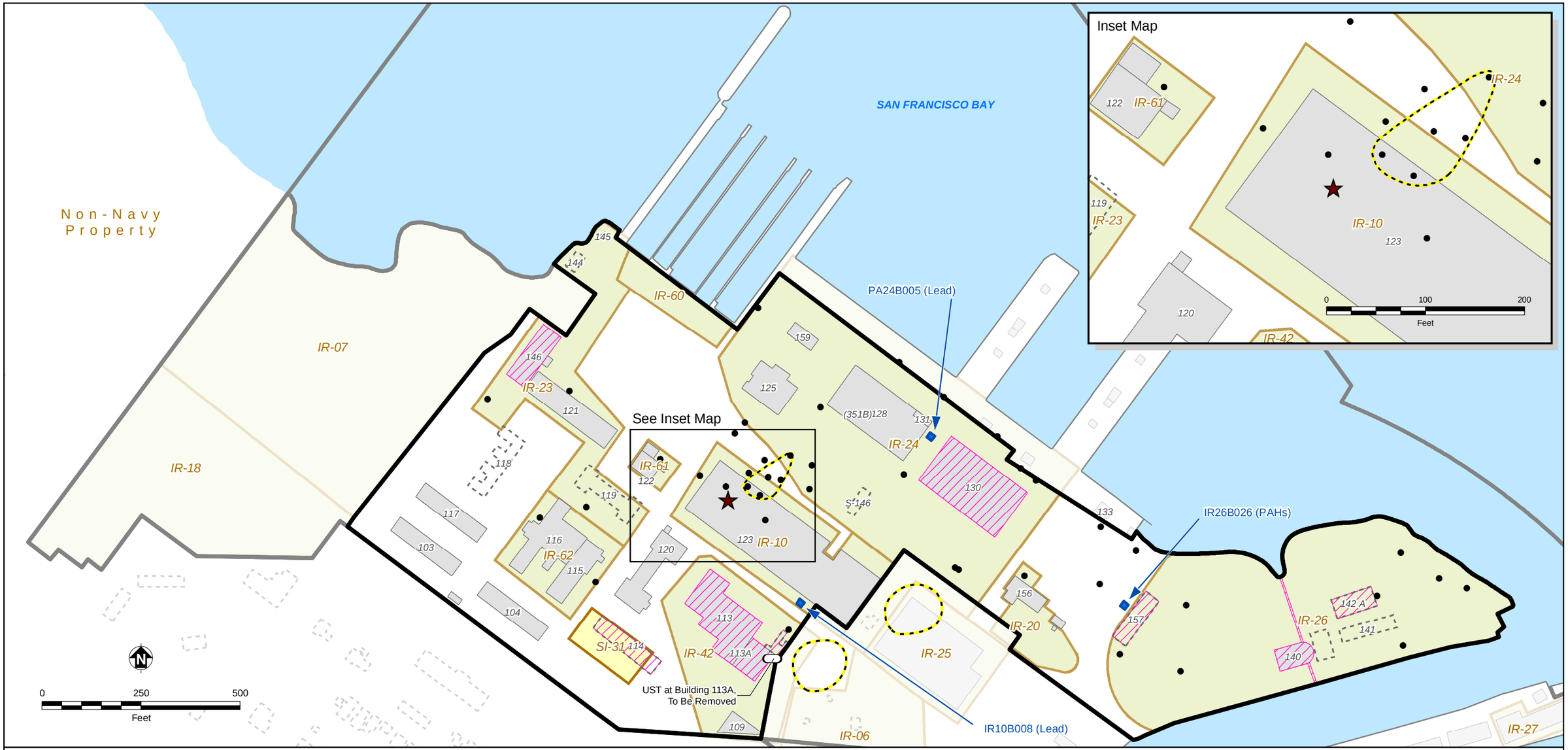
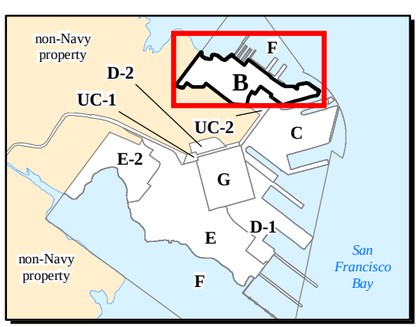
Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 4
SITE FEATURES, PARCEL G
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel g\foset\g_foset_site_features_map.mxd TtEMI-OAK andrew.bley





Hunters Point Naval Shipyard Parcels

- Groundwater Monitoring Well
- SVE System (IR-10)
- Underground Storage Tank, To Be Removed
- Radiological Impact Areas
- CERCLA Excavation (Completed)
- Early Transfer Property
- Parcel Boundary
- Groundwater VOC Plume
- SI Site
- IR Site
- Building, Existing
- Building, Demolished
- San Francisco Bay

Note:
Features outside of Parcel B are displayed on this map but faded.

AOC	Area of Concern
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PAH	Polycyclic Aromatic Hydrocarbon
PMO	Program Management Office
SI	Site Investigation
UC	Utility Corridor
VOC	Volatile Organic Compound

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 5
CERCLA PROGRAM, PARCEL B EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_foset_cercla_map.mxd TtEMI-OAK andrew.bley

Non-Navy Property

Non-Navy Property

Sheds

PARCEL D-2

Spear Avenue

PARCEL UC-1

PARCEL E

PARCEL D-1

302

402

303

304

401

421

420

419

422

IR09B030 Lead

IR33B091 BaP

IR-37

435

436

423

424

418

437

363

Removed UST S-435(2)

Removed UST S-435(1)

IR-09

417

366 (351B)

IR-34

404

415

351

323

351A

IR-65

324

411

IR-33

364

317

365

IR-66

407

Note: IR-65 and Building 324 share the same footprint

Closed-In-Place UST U439-2

Closed-In-Place UST U439-1

439

IR-67

410

IR-44

D-A

IR-71

408

438

409

IR-33

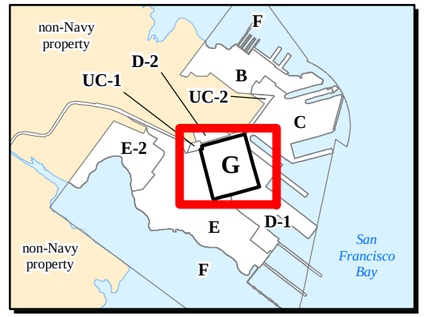
302

Removed UST U302

Removed UST U302-1

Removed AST A302-2

Removed UST U302-3



Hunters Point Naval Shipyard Parcels

- Groundwater Monitoring Well
- Underground Storage Tank, Closed-In-Place
- Underground Storage Tank, Removed
- Aboveground Storage Tank, Removed
- CERCLA Excavation (Completed)
- IR Site
- Radiologically Impacted Area
- Early Transfer Property
- Parcel Boundary
- Building, Existing
- Building, Demolished
- San Francisco Bay

Note: Features outside of Parcel G are displayed on this map but faded.

AOC	Area of Concern
BaP	Benzo [a] pyrene
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PMO	Program Management Office
UC	Utility Corridor

0 200 400

Feet

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Hunters Point Naval Shipyard, San Francisco, California

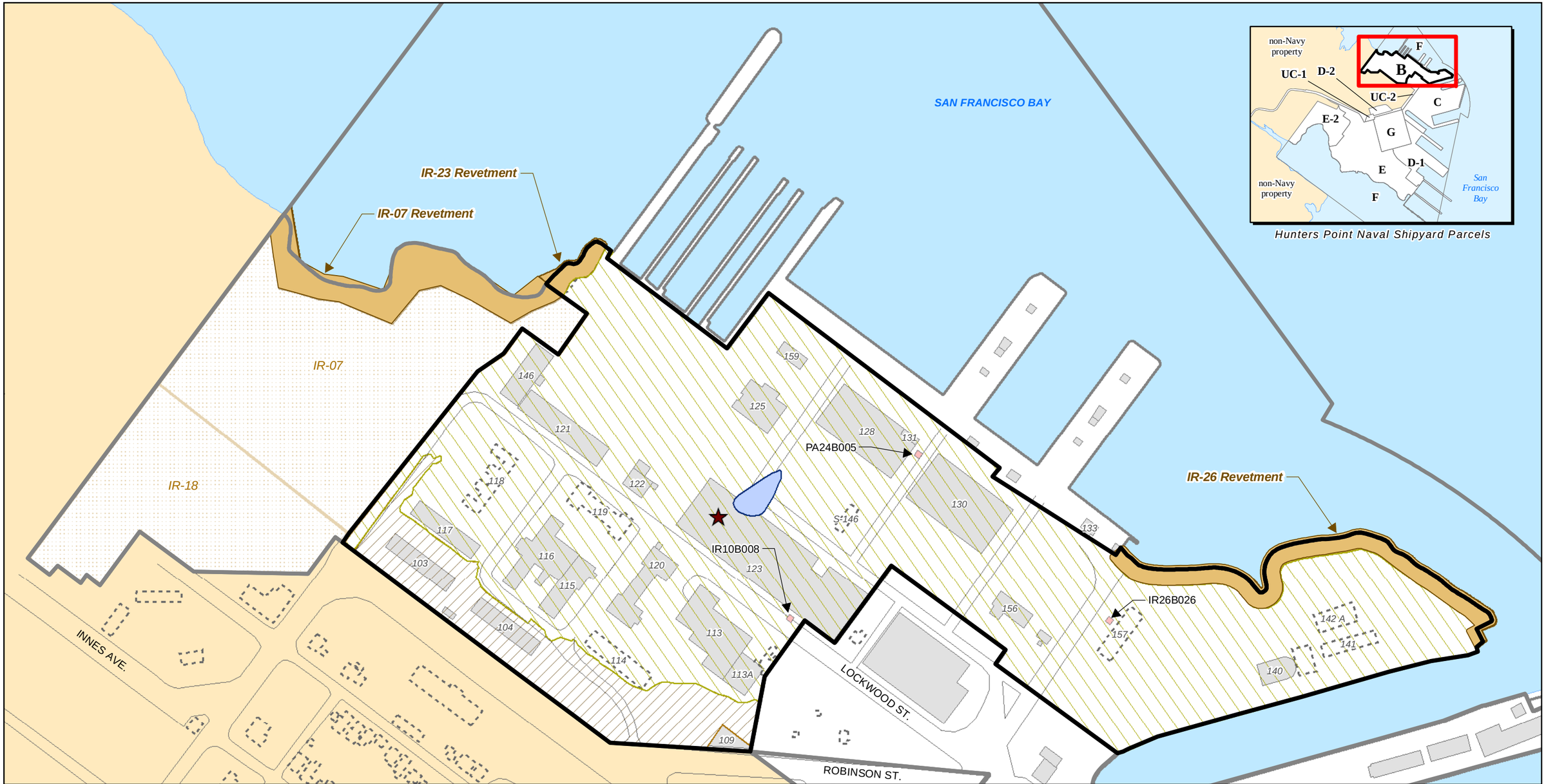
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 6

CERCLA PROGRAM, PARCEL G

EARLY TRANSFER PROPERTY

FOSET for Parcels B and G



SVE System
Revetment
2-Foot Soil Cover
Asphalt Pavement
Soil Excavation (Completed)
Approximate Extent of VOC Plume

Early Transfer Property
Parcel Boundary
IR Sites 07 and 18 (Parcel B)
Building, Existing
Building, Demolished
San Francisco Bay
Non-Navy Property
Road Edge

Note:
Refer to the Remedial Design Report for details of the cover components.

BRAC Base Realignment and Closure
FOSET Finding of Suitability for Early Transfer
IR Installation Restoration
PMO Program Management Office
SVE Soil Vapor Extraction
VOC Volatile Organic Compound

0 250 500
Feet

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 7
REMEDIAL DESIGN FOR PARCEL B
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_remedial_design.mxd TtEMI-OAK andrew.bley

PARCEL D-2

PARCEL UC-1

PARCEL UC-2

PARCEL C

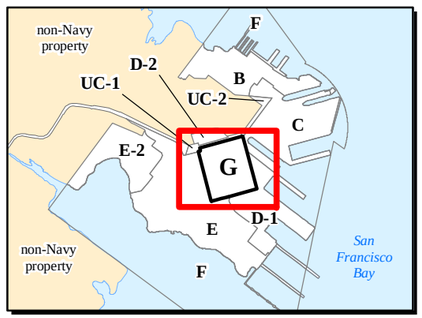
PARCEL E

PARCEL D-1

IR09B030

IR33B091

808 813 819 823 215 275 282 203 302 402 303 304 401 421 420 419 435 436 400 424 363 437 418 301 300 367 404 417 366 405 415 351 308 323 369 351A 324 368 411 313 274 407 306 406 704 439 D-A 413 409 371 414 606 500 307



Hunters Point Naval Shipyard Parcels

- Soil Stockpile (Removed)
- Soil Excavation (Completed)
- Asphalt Pavement
- Early Transfer Property
- Parcel Boundary
- 302 Building
- Non-Navy Property
- San Francisco Bay
- Road Edge

BRAC Base Realignment and Closure
FOSET Finding of Suitability for Early Transfer
PMO Program Management Office

N

0 200 400
Feet

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 8
REMEDIAL DESIGN FOR PARCEL G
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel g\foset\g_foset_design_overview.mxd TtEMI-OAK andrew.bley

PARCEL F

PARCEL B

IR-07

IR-18

San Francisco Bay

Non-Navy Property

PARCEL UC-2

PARCEL C

Non-Navy Property

PARCEL UC-3

PARCEL D-2

PARCEL UC-1

PARCEL E-2

PARCEL G

PARCEL E

PARCEL F

PARCEL D-1

145 144 146 121 159 125 128 131 118 122 119 S-146 130 117 103 116 115 120 123 133 156 157 142 141 140 104 114 113 113A 109

302 303 304 402 401 420 424 436 435 363 366 404 415 351 323 351A 324 411 407 317 439 410 D-A 409 408 438

non-Navy property
UC-1
D-2
F
B
UC-2
C
E-2
G
D-1
E
non-Navy property
F
San Francisco Bay

Hunters Point Naval Shipyard Parcels

- ARIC Related to VOC Vapors
- Radiologically Impacted Area
- Early Transfer Property
- Parcel Boundary
- IR Sites 07 and 18 (Parcel B)
- Existing Building Requiring Engineering Controls for VOC Vapors
- Building, Existing
- Building, Demolished
- Non-Navy Property
- San Francisco Bay
- Road Edge

Note:
Features outside of Parcels B and G are displayed on this map but faded.

ARIC	Area Requiring Institutional Controls
BRAC	Base Realignment and Closure
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PMO	Program Management Office
UC	Utility Corridor
VOC	Voliatile Organic Compound

0 300 600 900
Feet

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 9
RESTRICTIONS, PARCELS B AND G
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_and_g_foset_restrictions_map.mxd TtEMI-OAK andrew.bley

Non-Navy Property

PARCEL F

San Francisco Bay

IR-07

IR-18

TPH concentrations greater than the TPH source criterion of 3,500 mg/kg exist in deep soil beneath Building 130.

See Inset Map

Removed Tank S-136

Removed Tank S-135

23-B 145 144 46-D 7-E 60-B 60-A 23-A 24-A 159 146 125 24-E 46-A CAA-22 128 131 24-B 46-B CAA-21 121 122 61-A 61-B 10-B 10-A 46-E1 118 119 S-146 130 24-C 24-D 24-F 133 117 103 116 120 123 10-C 46-C 20-A 115 156 26-A 104 113 157 142 A 141 26-B 114 46-E2 113A 140 26-C 109

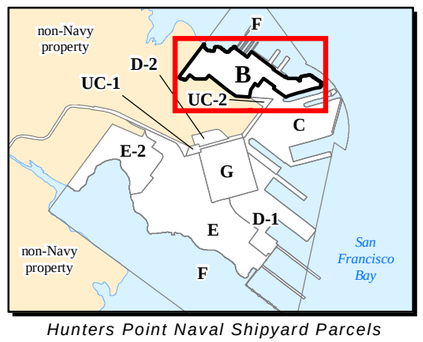
PARCEL UC-2

PARCEL C

Inset Map

0 100 200 Feet

CAA-22 CAA-21 46-A 46-B 128 131 130 IR46MW49A



Hunters Point Naval Shipyard Parcels

- Groundwater Monitoring Well IR46MW49A
- Underground Storage Tank, Removed
- Fuel Line, Abandoned in Place
- Fuel Line, Removed
- AOC, No Further Action Recommended
- Closed AOC
- Corrective Action Area (CAA)
- TPH Commingled AOC, No Further Action Recommended
- Early Transfer Property
- Parcel Boundary
- IR Sites 07 and 18 (Parcel B)
- Building, Existing
- Building, Demolished
- San Francisco Bay

0 250 500 Feet

Notes:
1) Features outside of Parcel B are displayed on this map but faded.
2) TPH concentrations in deep soil greater than the TPH source criteron of 3,500 mg/kg exist in deep soil beneath Building 130.

AOC	Area of Concern
BRAC	Base Realignment and Closure
CAA	Corrective Action Area
FOSET	Finding of Suitability for Early Transfer
IR	Installation Restoration
PMO	Program Management Office
UC	Utility Corridor

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Hunters Point Naval Shipyard, San Francisco, California
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 10
PETROLEUM PROGRAM, PARCEL B
EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

2010-12-14 v:\hunters_point\projects\parcel_b\foset\b_foset_petroleum_map.mxd TtEMI-OAK andrew.bley

Non-Navy Property

Non-Navy Property

PARCEL D-2

PARCEL UC-1

PARCEL E

PARCEL D-1

Spear Avenue

33-A

33-C

See Inset Map

33-B

Removed UST S-305

Removed UST S-304

37-A

Removed UST S-435(2)*

Removed UST S-435(1)*

IR34B023

IR34B018

65-A

45D-A

IR71B008

PA45TA00

Closed-In-Place UST U439-2*

Closed-In-Place UST U439-1*

302
303
304
401
402
421
420
419
422
435
436
423
424
418
437
363
366 (351B)
404
417
415
351
351A
323
324
411
364
317
365
410
D-A
408
438
409
407
439

Inset Map

33-C

Removed UST U302*

Removed UST U302-1*

Removed AST A302-2*

Removed UST U302-3*

0 30 60

Feet

N

non-Navy property

F

D-2

B

UC-1

UC-2

C

E-2

G

D-1

E

non-Navy property

F

San Francisco Bay

Hunters Point Naval Shipyard Parcels

- Underground Storage Tank, Closed-In-Place
- Underground Storage Tank, Removed
- Aboveground Storage Tank, Removed
- AOC Closure - Board Approved
- AOC Closure - Pending Confirmation
- AOC No Further Action Recommended
- TPH - Commingled AOC, Pending Confirmation (approximate, undefined boundary)
- Early Transfer Property
- Parcel Boundary
- Building, Existing
- Building, Demolished
- San Francisco Bay

Note: *Non-petroleum AST/UST

AOC	Area of Concern
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
FOSET	Finding of Suitability for Early Transfer
PMO	Program Management Office
TPH	Total Petroleum Hydrocarbon
UC	Utility Corridor
UST	Underground Storage Tank

N

0 200 400

Feet

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Hunters Point Naval Shipyard, San Francisco, California

Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 11

PETROLEUM PROGRAM, PARCEL G

EARLY TRANSFER PROPERTY

FOSET for Parcels B and G

TABLE

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G

Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references that are listed at the end of this table.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-4	103	COMSUB Barracks	Unknown	Existing	(TSI) FAD Repaired/Encapsulated 1997 (Misc) NF Repaired/Removed 1997 Loose transite pieces and debris around the building and in the crawlspace under the building were removed in 2007; broken transite was also identified[7]	Possible in some fluorescent light ballasts	No
B	N-4	104	Naval Reserve Armory	Unknown	Existing	(S) NF (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF Repaired/Removed 1997 One spot of exposed TSI required encapsulation; damaged floor tiles and localized impact damage on transite shingles were identified in 2006[7]	Possible in some fluorescent light ballasts	No
B	N-10	109	Police Station	1934	Existing	(S) NF (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF; F Heat Duct Repaired/Encapsulated 1997	No Electrical Equipment Observed[4]	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-7	113	Tug Maintenance and Salvage Diver Shop	1943	Existing	(S) Assumed FAD Repaired/Encapsulated 1997 (Misc) NF - Cloth (Room 5) Repaired/Encapsulated 1997	Fluorescent lights, transformer 1 transformer behind building (<50 ppm label); 2 transformers formerly at site – one with PCB, one without; 1 transformer disposed of (unknown date); 1 out of service (< 1ppm)[4]	Impacted
B	N-7	113A	Office Building	Unknown	Existing	Not Surveyed	No Equipment Observed[4]	Impacted
B	N-7	114	Office Building	Demolished	Demolished	Demolished	Demolished	Impacted – demolished
B	N-5	115	Submarine Office and Training School	Unknown	Existing	(TSI) FAD Repaired/Encapsulated 1997 (Misc) NF; Gasket Removed 1997 Broken transite, joint compound, floor tiles, and TSI and exposed mastic were found in 2006[7]	Industrial process equipment containing PCBs was removed in 2005	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-5	116	Submarine Subsistence and Training	Unknown	Existing	(TSI) FAD Repaired/Encapsulated 1997 (Misc) NF Damaged transite shingles and debris were removed; damaged lagging were repaired; and cracked caulking, joint compound, and tiles were found in 2006[7]	Possible in some fluorescent light ballasts	No
B	N-4	117	COMSUB Barracks	Unknown	Existing	(TSI) FAD Repaired/Encapsulated 1997 (Misc) NF Damaged transite shingles and crawl space insulation were identified in 2006[7]	Possible in some fluorescent light ballasts	No
B	N-5	118	Unknown	Unknown	Demolished	Demolished	Demolished	No
B	N-5	119	Unknown	Unknown	Demolished	Demolished	Demolished	No
B	N-7	120	Enlisted Men's Club	Unknown	Existing	(TSI) FAD Repaired/Encapsulated 1997 (Misc) NF Cracked tiles, exposed mastic, and hole in transite were found in 2006[7]	Possible in some fluorescent light ballasts	No
B	N-6	121	Civil Training Center	1944	Existing	(S) NF (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	Ballasts, fluorescent light fixtures; transformers 3 transformers (<50 ppm label)[4]	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-6	122	Electrical Substation	1944	Existing	(S) Assumed (TSI) Assumed (Misc) NF	Transformers 1 present (<50 ppm label); 2 possibly removed; 13 PCB/ transformers removed/ disposed of 1992; 4 transformers Removed/ Disposed of 1995 (two unknown status)[4]	No
B	N-8	123	Battery Overhaul and Electroplating Storage	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	Fluorescent lights, ballasts, and transformers. Oil in many circuit breakers and two transformers. Some analyzed for PCBs, many verified contained PCBs. Six circuit breakers and 2 transformers disposed of at unknown date.[4]	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-9	125	Submarine Cafeteria	Unknown	Existing	(S) NF (TSI) F Repaired/Encapsulated1997 (Misc) NF No damage to previously identified ACM was observed in 2006[7]	Possible in some fluorescent light ballasts	No
B	N-9	128	Shop Service, Work Control Center	1944	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) F	2 transformers formerly at site[4]	No
B	N-12	130	Machine Shop	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Electric Wrap Removed 1997	No Equipment Observed[4]	Impacted
B	N-9	131	Electrical Substation U	Unknown	Existing	(S) Assumed (TSI) Assumed (Misc) NF - Electric Wrap and Insulating Mud Removed 1997	Existing and former high-voltage electrical equipment – 6 Circuit Breakers, 2 transformers all disposed of at unknown date[4]	No
B	N-16	133	Latrine	Unknown	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No Equipment Observed[4]	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-16	140	Pump House	1918	Existing	(S) Assumed (TSI) NF (Misc) NF	2 transformers Observed Labeled "Contains PCBs" High Volt Equip: 7 Circuit Breakers (1 out of service, 1 abandoned, 5 disposed of); 2 transformers, 1 abandoned, 1 disposed of[4]	Impacted
B	N-16	141	Dock Shipwright's Shop	1942	Demolished	Demolished	Demolished	No
B	N-16	142A	Unknown	Unknown	Demolished	Demolished	Demolished	Impacted-Demolished
B	N-OS	144	Restroom	Unknown	Demolished	Demolished	Demolished	No
B	N-OS	145	Pumphouse	Unknown	Demolished	Demolished	Demolished	No
B	N-6	146	Industrial Photo Lab and TACAN Facility	1945	Existing	(S) Assumed (TSI) F (Misc) NF	No Equipment Observed[4]	Impacted
B	N-12	156	Rubber Shop	1953	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	3 transformers possibly removed[4]	No
B	N-15	157	Q&RA Industrial Lab	1957	Demolished	Demolished	Demolished	Impacted-Demolished

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
B	N-9	159	Latrine	1956	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	2 transformers PCB <1ppm, out of service.[4]	No
B	N-15	163	Rubber Shop Annex	Unknown	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) Assumed – Heat Exchange Repaired/Encapsulated 1997	Unknown	No
B	Unknown	S-146	Unknown	Unknown	Demolished	Demolished	Demolished	No
G	S-28	302	Transportation Shop	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF[a]	Tenant Equipment[c]	No
G	S-28	303	Transportation Shop	1944	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	IPE tested ND for PCBs (2003)[5]	No
G	S-28	304	Service Station	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) Assumed	No equipment observed	No
G	S-39	317	Unknown	Unknown	Demolished	Demolished	No Information	Impacted - Demolished

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
G	S-39	323	Shore Activities, Electronics, Boat Shop	1946	Existing	No Asbestos[1]	Fluorescent Light Ballasts (potentially containing PCBs) removed and disposed of (2003)[5]	No
G	S-39	324	Carbon Dioxide Refilling Station	1946	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	No PCB concerns	No
G	S-39	351	Electronics Shop	1945	Existing	(S) Assumed (TSI) F (Misc) NF Fire Doors Removed 1997	No PCB concerns	Impacted
G	S-39	351A (352)	NRDL Electronics Laboratory	1953	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	No PCB concerns	Impacted
G	S-28	363	Woodworking Shop	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	No equipment observed	No
G	S-39	364	Radiation Hot Laboratory and Chemistry Laboratory	1950	Demolished	Demolished	No PCB concerns	Impacted - Demolished

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
G	S-39	365	Storage Building, Offices, and Film Laboratory	1951	Demolished	Demolished	No PCB concerns	Impacted - Demolished–
G	S-28	366	Boat and Plastic Shop	1952	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	IPE[c] with PCB detections above 1 ppm labeled as "Contains PCBs at <50 ppm"	Impacted
G	S-30	401	Public Works Shop	1943	Existing	(S) NF (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	Tenant Equipment	Impacted
G	S-29	402	Supply Storehouse, Q&RA Offices	1943	Existing	(S) Assumed (TSI) F (Misc) NF	Tenant Equipment	No
G	S-30	404	Supply Storehouse	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) F	No PCB concerns	No
G	S-30	404A	Supply Storehouse	1943		Surveyed/Abated	No PCB concerns	No
G	S-37	407	Ships Operational Activity Parts Offices and Supply Storage	1943	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	Tenant Equipment	No
G	S-38	408	Furnace Shelter	1947	Demolished	Demolished	No PCB concerns	Impacted – Demolished

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
G	S-38	409	Welder Motor Generator Shop	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-38	410	Welder Motor Generator Shop	Unknown	Demolished	(S) Assumed (TSI) Assumed (Misc) NF	No Information	No
G	S-38	411	Shipfitter's Shops, Boiler Maker Shop	1947	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF - Debris Removed 1997	Tenant Equipment	Impacted
G	S-30	412	Unknown	Unknown	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-39	415	Storehouse	Unknown	Existing	Not Surveyed	No PCB concerns	No
G	S-39	416	Storehouse	Unknown	Existing	Not Surveyed	No PCB concerns	No
G	S-29	417	Acetylene Manifolding, Welding Engineers	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-29	418	Q&RA Welding Engineering Facility, Metal Spray	1947	Existing	(S) Assumed (TSI) FAD Repaired/Encapsulated 1997 (Misc) NF	No PCB concerns	No
G	S-29	419	Oxygen Converter	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
G	S-29	420	Oxygen Cylinder Charging	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-29	421	Oxygen Control Shop	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-29	422	Office and Latrine	1947	Demolished	(S) Assumed (S) Assumed (TSI) F (Misc) NF	No information	No
G	S-29	423	Compressor Hut and Paint Storage	1947	Demolished	(S) Assumed (TSI) Assumed (Misc) NF	No information	No
G	S-29	424	Area Time House No. 4	1947	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-30	435	Equipment Storage	1946	Existing	(S) Assumed (TSI) Assumed (Misc) F	Tenant Equipment	No
G	S-30	436	Material Storage	1946	Existing	(S) NF (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-30	437	Pipe Storage	1954	Existing	(S) Assumed (TSI) Assumed (Misc) NF	No PCB concerns	No
G	S-38	438	Metal Spray Shelter	1950	Demolished	No	No PCB concerns	No

TABLE 1: SUMMARY OF CONDITIONS BY BUILDING IN PARCELS B AND G (CONTINUED)

Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Please note the superscript letters refer to footnotes, and the superscript numbers indicate references.

Parcel	Subparcel	Building Number[a]	Past Use	Year of Construction	Status	Asbestos[b]	Polychlorinated Biphenyls[c]	Radiologically Impacted[6]
G	S-37	439	Equipment Storage	1973	Existing	(S) Assumed (TSI) Assumed (Misc) NF	PCB containing equipment disposed; no remaining PCB concerns	Impacted – Partially
G	S-38	D-A	Unknown	Unknown	Existing	Not Surveyed	No PCB concerns	No
G	S-29	411A	Unknown	Unknown	Unknown	Not Surveyed	Unknown	No
G	S-29	411B	Unknown	Unknown	Unknown	Unknown	Unknown	No

Notes:

a Information for Buildings 103, 104, 115, 116, 117, 120, and 125, located in the area leased to artists, was from the MACTEC FOSL (Reference 7).

b Buildings at Hunters Point Naval Shipyard were surveyed for asbestos-containing material in 1994 (Reference 1). Buildings 323 and 438 were found to not contain asbestos, and either friable or non-friable asbestos was identified or assumed present in other buildings. Buildings were remediated in 1997 (Reference 2).

c In 1998, electrical equipment associated with buildings in this FOSET was identified as a concern or not for PCBs (Reference 4). During the 2003 waste consolidation effort in Parcel D, buildings were revisited and any equipment of concern noted. The majority of the equipment noted in Parcel B in 2003 was tenant-owned IPE (defined as stand-alone machinery such as presses, punches, lathes and process pumps, excluding elevator motors, cranes, powerhouse generators, or fluorescent light ballasts), and Navy personnel agreed with recommendation that the equipment be assessed for PCB content (Reference 5).

F	Friable	Misc	Miscellaneous	ppm	Parts per million
FAD	Friable, accessible, or damaged	ND	Not detected	Q&RA	Quality and reliability assurance
FOSL	Finding of Suitability to Lease	NF	Non-friable	S	Surfacing
IPE	Industrial process equipment	NRDL	Naval Radiological Defense Laboratory	TACAN	Tactical air navigation
LBP	Lead-based paint	PCB	Polychlorinated biphenyl	TSI	Thermal system insulation

References:

1. Mare Island Naval Shipyard. 1994. "Asbestos Containing Material Survey Parcels B-E, Hunters Point Shipyard, San Francisco, CA." August.
2. Navy Public Works Center. 1997. "Asbestos Remediation Report, Parcels B-E, Hunters Point Shipyard, San Francisco, CA." May 9.
3. Department of Navy. 2009a. "Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, CA." February 18.
4. Tetra Tech EM Inc. 1998. "Final Basewide Environmental Baseline Survey, Hunters Point Shipyard, San Francisco, CA; Revision 01." September 4.
5. Foster Wheeler Environmental Corporation (Foster Wheeler). 2003. "Final Post-Construction Report, Industrial Process Equipment Survey, Sampling, Decontamination, and Waste Consolidation Parcel D, Hunters Point Shipyard, San Francisco, CA." October 22.
6. Naval Sea Systems Command (NAVSEA). 2004. "Final Historical Radiological Assessment, Volume II, History of the Use of General Radioactive Materials, 1939 – 2003, Hunters Point Shipyard." August 31.
7. MACTEC Engineering and Consulting, Inc. (MACTEC). 2008. "Final Finding of Suitability to Lease (FOSL) Buildings 103, 104, 115, 116, 117, 120, 125 and 606, Open Spaces 1 and 2, Hunters Point Shipyard, San Francisco, California." February 4.

APPENDIX A
HAZARDOUS SUBSTANCES STORED, RELEASED, OR DISPOSED OF

TABLE A-1a. SUMMARY OF PETROLEUM PRODUCTS DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G

Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Analytical Group	Petroleum Products[a]	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	GROUNDWATER	TPH	DIESEL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	UST Phase I and II Removal (1991-1993); Industrial Process Equipment Survey, Sampling, Decontamination and Waste Consolidation Action (2002).
B	GROUNDWATER	TPH	GASOLINE RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TPH	MOTOR OIL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
B	SOIL	TPH	DIESEL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
B	SOIL	TPH	GASOLINE RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
B	SOIL	TPH	MOTOR OIL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
B	SOIL	TPH	TRPH	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TPH	DIESEL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TPH	GASOLINE RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TPH	MOTOR OIL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TPH	TPH-UNKNOWN MOTOR OIL	UNKNOWN	UNKNOWN	R	
G	SOIL	TPH	DIESEL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	SOIL	TPH	GASOLINE RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	SOIL	TPH	MOTOR OIL RANGE ORGANICS	UNKNOWN	UNKNOWN	R	
G	SOIL	TPH	TRPH	UNKNOWN	UNKNOWN	R	

Notes:

a Includes only petroleum products which fall within the scope of the CERCLA Petroleum exclusion set forth in CERCLA Section 101(14).

TPH Total petroleum hydocarbon
TRPH Total recoverable petroleum hydrocarbon
UST Underground storage tank

References:

Department of the Navy (Navy). 2009. "Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California." January 14.

Navy. 2009. "Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California." February 18.

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	GROUNDWATER	1,1-DICHLOROETHANE	75-34-3	ETHANE, 1,1-DICHLORO-; ETHYLIDENE DICHLORIDE	U076	454 kg	UNKNOWN	UNKNOWN	R	Phase I Remedial Action (July 1998 to September 1999); Phase II Remedial Action (July 2000 to December 2001); TCRA for Mercury at IR-26 (2008); Final Amended Parcel B ROD (2009).
B	GROUNDWATER	1,1-DICHLOROETHENE	75-35-4	ETHENE, 1,1-DICHLORO-; VINYLIDENE CHLORIDE; 1-1-DICHLOROETHYLENE	U078	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	1,2-DICHLOROETHANE	107-06-2	ETHANE, 1-2-DICHLORO-; ETHYLENE DICHLORIDE	U077	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	1,2-DICHLOROETHENE (TOTAL)	540-59-01	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	1,3-DICHLOROBENZENE	541-73-1	BENZENE, 1,3-DICHLORO; M-DICHLOROBENZENE	U071	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	1,4-DICHLOROBENZENE	541-73-1	BENZENE, 1,3-DICHLORO; M-DICHLOROBENZENE	U071	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	2,6-DINITROTOLUENE	573-56-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	2-METHYLNAPHTHALENE	91-57-6	BETA-METHYLNAPTHALENE; BETA-METHYL NAPHTHALENE; 2-METHYLNAPTHALENE; METHYL-2-NAPHTHALENE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	4,4'-DDE	72-55-9	DDE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ACENAPHTHENE	83-32-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ACENAPHTHYLENE	208-96-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ALDRIN	309-00-2	1,4:5,8-DIMETHANONAPHTHALENE	P004	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ALPHA-BHC	319-84-6	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ALPHA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	U036	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ALUMINUM	7429-90-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ANTHRACENE	120-12-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ANTIMONY	7440-36-0	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ARSENIC	7440-38-2	NONE	D004	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BARIUM	7440-39-3	NONE	D005	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BENZENE	71-43-2	NONE	U019	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BENZO(A)ANTHRACENE	56-55-3	BENZ[A]ANTHRACENE; 1,2-BENZANTHRACENE	U018	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BENZO(A)PYRENE	50-32-8	3,4-BENZOPYRENE	U022	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BENZO(B)FLUORANTHENE	205-99-2	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BERYLLIUM	7440-41-7	BERYLLIUM POWDER	P015	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BETA-BHC	319-85-7	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	1,2-BENZENEDICARBOXYLIC ACID; BIS(2-ETHYLHEXYL)ESTER; DEHP; DIETHYLHEXYL PHTHALATE	U028	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	BROMOMETHANE	74-83-9	METHANE, BROMO-; METHYL BROMIDE	U029	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CADMIUM	7440-43-9	NONE	D006	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CARBON DISULFIDE	75-15-0	NONE	P022	45.4 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	GROUNDWATER	CHLOROBENZENE	108-90-7	BENZENE, CHLORO-	U037	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CHLOROFORM	67-66-3	METHANE, TRICHLORO-	U044	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CHROMIUM	7440-47-3	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CHROMIUM VI	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CHRYSENE	218-01-9	NONE	U050	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CIS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	COBALT	7440-48-4	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	COPPER	7440-50-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	DELTA-BHC	319-86-8	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	DIBENZ(A,H)ANTHRACENE	53-70-3	DIBENZO(A,H)ANTHRACENE; 1,2:5,6-DIBENZANTHRACENE	U063	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ENDOSULFAN SULFATE	1031-07-8	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ENDRIN ALDEHYDE	7421-93-4	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ENDRIN KETONE	72-20-8	ENDRIN & METABOLITES	P051	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ETHYLBENZENE	100-41-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	FLUORANTHENE	206-44-0	NONE	U120	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	FLUORENE	86-73-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	GAMMA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	HEPTACHLOR	76-44-8	NONE	P059	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	HEPTACHLOR EPOXIDE	1024-57-3	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	HEXACHLOROETHANE	67-72-1	ETHANE, HEXACHLORO-	U131	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	INDENO(1,2,3-CD)PYRENE	193-39-5	1,10-(1,2-PHENYLENE)PYRENE	U137	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	IRON	7439-89-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	LEAD	7439-92-1	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	M,P-XYLENES	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	MANGANESE	7439-96-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	MERCURY	7439-97-6	NONE	U151	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	METHYLENE CHLORIDE	75-09-2	DICHLOROMETHANE; METHANE, DICHLORO-	U080	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	MOLYBDENUM	7439-98-7	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	NAPHTHALENE	91-20-3	NONE	U165	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	NICKEL	7440-02-0	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	N-NITROSODIPHENYLAMINE	86-30-6	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	PHENANTHRENE	85-01-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	GROUNDWATER	PYRENE	129-00-0	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	SELENIUM	7782-49-2	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	SILVER	7440-22-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TERT-BUTYL METHYL ETHER	1634-04-4	METHYL TERT-BUTYL ETHER	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TETRACHLOROETHENE	127-18-4	ETHENE, TETRACHLORO-; PERCHLOROETHYLENE; TETRACHLOROETHYLENE	U210	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	THALLIUM	7440-28-0	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TOLUENE	108-88-3	BENZENE, METHYL-	U220	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TRANS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	TRICHLOROETHENE	79-01-6	ETHENE, TRICHLORO-; TRICHLOROETHYLENE	U228	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	VANADIUM	7440-62-2	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	VINYL CHLORIDE	75-01-4	ETHENE, CHLORIDE	U043	0.454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	XYLENE (TOTAL)	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	ZINC	7440-66-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	CESIUM-137	NA	NONE	NA	1 Curie	UNKNOWN	UNKNOWN	R	Radiological TCRA (March 2008-ongoing); Final Amended Parcel B ROD (2009).
B	GROUNDWATER	COBALT-60	NA	NONE	NA	100 Curie	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	PLUTONIUM-239	NA	NONE	NA	0.01 Curie	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	RADIUM-226	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
B	GROUNDWATER	STRONTIUM-90	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
B	SOIL	1,1,1-TRICHLOROETHANE	71-55-6	ETHANE, 1,1,1-TRICHLORO; METHYL CHLOROFORM	U226	454 kg	UNKNOWN	UNKNOWN	R	Phase I Remedial Action (July 1998 to September 1999); Phase II Remedial Action (July 2000 to December 2001); TCRA for Mercury at IR-26 (2008);Final Amended Parcel B ROD (2009).
B	SOIL	1,1,2,2-TETRACHLOROETHANE	79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	U209	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	1,1,2-TRICHLOROETHANE	79-00-5	ETHANE, 1,1,2-TRICHLORO-	U227	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	1,1-DICHLOROETHANE	75-34-3	ETHANE, 1,1-DICHLORO-; ETHYLIDENE DICHLORIDE	U076	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	1,1-DICHLOROETHENE	75-35-4	ETHENE, 1,1-DICHLORO-; VINYLIDENE CHLORIDE; 1-1-DICHLOROETHYLENE	U078	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	1,1-DICHLOROPROPENE	563-58-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	1,2,4-TRIMETHYLBENZENE	95-63-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	1,2-DICHLOROETHANE	107-06-2	ETHANE, 1-2-DICHLORO-; ETHYLENE DICHLORIDE	U077	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	1,2-DICHLOROETHENE (TOTAL)	540-59-01	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	1,3,5-TRIMETHYLBENZENE	108-67-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	1,3-DICHLOROBENZENE	541-73-1	BENZENE, 1,3-DICHLORO; M-DICHLOROBENZENE	U071	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	2-BUTANONE	78-93-3	MEK; METHYL ETHYL KETONE	U159	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	2-CHLOROPHENOL	95-57-8	O-CHLOROPHENOL; PHENOL, 2-CHLORO-	U048	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	2-HEXANONE	591-78-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	2-METHYLNAPHTHALENE	91-57-6	BETA-METHYLNAPTHALENE; BETA-METHYL NAPHTHALENE; 2-METHYLNAPTHALENE; METHYL-2-NAPHTHALENE	NA	NA	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	SOIL	4,4'-DDD	72-54-8	BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO]-; DDD; TDE	U060	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	4,4'-DDE	72-55-9	DDE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	4,4'-DDT	50-29-3	BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-]; DDT	U061	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	4-METHYL-2-PENTANONE	108-10-1	HEXONE; METHYL ISOBUTYL KETONE	U161	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	4-METHYLPHENOL	1319-77-3	CRESOL (CRESYLIC ACID)	U052	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ACENAPHTHENE	83-32-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ACENAPHTHYLENE	208-96-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ACETONE	67-64-1	2-PROPANONE	U002	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ALDRIN	309-00-2	1,4:5,8-DIMETHANONAPHTHALENE	P004	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ALPHA-BHC	319-84-6	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ALPHA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	U036	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ALUMINUM	7429-90-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	ANTHRACENE	120-12-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ANTIMONY	7440-36-0	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	AROCLOR-1242	53469-21-9	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	AROCLOR-1254	11097-69-1	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	AROCLOR-1260	11096-82-5	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ARSENIC	7440-38-2	NONE	D004	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BARIUM	7440-39-3	NONE	D005	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZENE	71-43-2	NONE	U019	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZO(A)ANTHRACENE	56-55-3	BENZ[A]ANTHRACENE; 1,2-BENZANTHRACENE	U018	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZO(A)PYRENE	50-32-8	3,4-BENZOPYRENE	U022	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZO(B)FLUORANTHENE	205-99-2	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZO(G,H,I)PERYLENE	191-24-2	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZO(K)FLUORANTHENE	207-08-9	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BENZOIC ACID	65-85-0	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BERYLLIUM	7440-41-7	BERYLLIUM POWDER	P015	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BETA-BHC	319-85-7	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	1,2-BENZENEDICARBOXYLIC ACID; BIS(2-ETHYLHEXYL)ESTER; DEHP; DIETHYLHEXYL PHTHALATE	U028	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BROMODICHLOROMETHANE	75-27-4	DICHLOROBROMOMETHANE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	BUTYLBENZYLPHTHALATE	85-68-7	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CADMIUM	7440-43-9	NONE	D006	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CARBAZOLE	86-74-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	CARBON DISULFIDE	75-15-0	NONE	P022	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CARBON TETRACHLORIDE	56-23-5	METHANE, TETRACHLORO	U211	4.54 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	SOIL	CHLOROBENZENE	108-90-7	BENZENE, CHLORO-	U037	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CHLOROFORM	67-66-3	METHANE, TRICHLORO-	U044	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CHLOROMETHANE	74-87-3	METHANE, CHLORO-; METHYL CHLORIDE	U045	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CHROMIUM	7440-47-3	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CHROMIUM VI	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	CHRYSENE	218-01-9	NONE	U050	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CHRYSOTILE ASBESTOS	1332-21-4	2,3	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CIS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CIS-1,3-DICHLOROPROPENE	542-75-6	1-PROPENE, 1,3-DICHLORO-	U084	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	COBALT	7440-48-4	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	COPPER	7440-50-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CYANIDE	NA	CYANIDE COMPOUNDS	P030	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	DIBENZ(A,H)ANTHRACENE	53-70-3	DIBENZO(A,H)ANTHRACENE; 1,2:5,6-DIBENZANTHRACENE	U063	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	DIBENZOFURAN	132-64-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	DIBUTYLTIN	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	DIELDRIN	60-57-1	2,7:3,6-DIMETHANONAPTH[2,3-B]OXIRENE	P037	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	DI-N-BUTYLPHTHALATE	84-74-2	DIBUTYL PHTHALATE; N-BUTYL PHTHALATE; 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER	U069	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ENDOSULFAN II	33213-65-9	BETA-ENDOSULFAN	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ENDOSULFAN SULFATE	1031-07-8	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ENDRIN	72-20-8	ENDRIN & METABOLITES	P051	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ENDRIN ALDEHYDE	7421-93-4	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ENDRIN KETONE	72-20-8	ENDRIN & METABOLITES	P051	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ETHYLBENZENE	100-41-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	FLUORANTHENE	206-44-0	NONE	U120	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	FLUORENE	86-73-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	GAMMA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	INDENO(1,2,3-CD)PYRENE	193-39-5	1,10-(1,2-PHENYLENE)PYRENE	U137	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	IRON	7439-89-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	LEAD	7439-92-1	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	M,P-XYLENES	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	MANGANESE	7439-96-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	MERCURY	7439-97-6	NONE	U151	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	METHOXYCHLOR	72-43-5	BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY]-	U247	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	METHYLENE CHLORIDE	75-09-2	DICHLOROMETHANE; METHANE, DICHLORO-	U080	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	MOLYBDENUM	7439-98-7	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	MONOBUTYLTIN	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	NAPHTHALENE	91-20-3	NONE	U165	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	N-BUTYLBENZENE	104-51-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
B	SOIL	NICKEL	7440-02-0	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	N-NITROSODIPHENYLAMINE	86-30-6	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	O-XYLENE	95-47-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	PARA-ISOPROPYL TOLUENE	99-87-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	PENTACHLOROPHENOL	87-86-5	NONE	F027	4.54 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	PHENANTHRENE	85-01-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	PHENOL	108-95-2	NONE	U188	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	PYRENE	129-00-0	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	SEC-BUTYLBENZENE	135-98-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	SELENIUM	7782-49-2	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	SILVER	7440-22-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	STYRENE	100-42-5	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TETRACHLOROETHENE	127-18-4	ETHENE, TETRACHLORO-; PERCHLOROETHYLENE; TETRACHLOROETHYLENE	U210	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	THALLIUM	7440-28-0	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TOLUENE	108-88-3	BENZENE, METHYL-	U220	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TRANS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TRANS-1,3-DICHLOROPROPENE	542-75-6	1-PROPENE, 1,3-DICHLORO-	U084	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TRIBUTYLTIN	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	TRICHLOROETHENE	79-01-6	ETHENE, TRICHLORO-; TRICHLOROETHYLENE	U228	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	TRICHLOROFLUOROMETHANE	75-69-4	METHANE, TRICHLOROFLUORO-	U121	2270 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	VANADIUM	7440-62-2	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
B	SOIL	VINYL CHLORIDE	75-01-4	ETHENE, CHLORIDE	U043	0.454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	XYLENE (TOTAL)	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	ZINC	7440-66-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
B	SOIL	CESIUM-137	NA	NONE	NA	1 Curie	UNKNOWN	UNKNOWN	R	Radiological TCRA (March 2008-ongoing); Final Amended Parcel B ROD (2009).
B	SOIL	COBALT-60	NA	NONE	NA	100 Curie	UNKNOWN	UNKNOWN	R	
B	SOIL	PLUTONIUM-239	NA	NONE	NA	0.01 Curie	UNKNOWN	UNKNOWN	R	
B	SOIL	RADIUM-226	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
B	SOIL	STRONTIUM-90	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	1,1,1-TRICHLOROETHANE	71-55-6	ETHANE, 1,1,1-TRICHLORO; METHYL CHLOROFORM	U226	454 kg	UNKNOWN	UNKNOWN	R	Groundwater Treatability Study (2008-ongoing); Final ROD for Parcel G (2009).
G	GROUNDWATER	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	1,1,2-TRICHLOROETHANE	79-00-5	ETHANE, 1,1,2-TRICHLORO-	U227	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	1,1-DICHLOROETHANE	75-34-3	ETHANE, 1,1-DICHLORO-; ETHYLIDENE DICHLORIDE	U076	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	1,2-DICHLOROETHANE	107-06-2	ETHANE, 1-2-DICHLORO-; ETHYLENE DICHLORIDE	U077	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	1,2-DICHLOROETHENE (TOTAL)	540-59-01	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	2,4-DIMETHYLPHENOL	105-67-9	PHENOL, 2,4-DIMETHYL-	U101	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	2-HEXANONE	591-78-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	2-METHYLNAPHTHALENE	91-57-6	BETA-METHYLNAPTHALENE; BETA-METHYL NAPHTHALENE; 2-METHYLNAPTHALENE; METHYL-2-NAPHTHALENE	NA	NA	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
G	GROUNDWATER	4-METHYL-2-PENTANONE	108-10-1	HEXONE; METHYL ISOBUTYL KETONE	U161	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	4-METHYLPHENOL	1319-77-3	CRESOL (CRESYLIC ACID)	U052	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ACENAPHTHYLENE	208-96-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ACETONE	67-64-1	2-PROPANONE	U002	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ALUMINUM	7429-90-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ANTHRACENE	120-12-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ANTIMONY	7440-36-0	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ARSENIC	7440-38-2	NONE	D004	0.454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BARIUM	7440-39-3	NONE	D005	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BENZENE	71-43-2	NONE	U019	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BENZO(B)FLUORANTHENE	205-99-2	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BERYLLIUM	7440-41-7	BERYLLIUM POWDER	P015	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	1,2-BENZENEDICARBOXYLIC ACID; BIS(2-ETHYLHEXYL)ESTER; DEHP; DIETHYLHEXYL PHTHALATE	U028	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	BROMOMETHANE	74-83-9	METHANE, BROMO-; METHYL BROMIDE	U029	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CADMIUM	7440-43-9	NONE	D006	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CARBON DISULFIDE	75-15-0	NONE	P022	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CARBON TETRACHLORIDE	56-23-5	METHANE, TETRACHLORO	U211	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CHLOROFORM	67-66-3	METHANE, TRICHLORO-	U044	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CHLOROMETHANE	74-87-3	METHANE, CHLORO-; METHYL CHLORIDE	U045	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CHROMIUM	7440-47-3	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CHROMIUM VI	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CIS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	COBALT	7440-48-4	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	COPPER	7440-50-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CYANIDE	NA	CYANIDE COMPOUNDS	P030	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	DIBENZOFURAN	132-64-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ETHYLBENZENE	100-41-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	FLUORENE	86-73-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	HEXACHLOROETHANE	67-72-1	ETHANE, HEXACHLORO-	U131	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	IRON	7439-89-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	LEAD	7439-92-1	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	MANGANESE	7439-96-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	MERCURY	7439-97-6	NONE	U151	0.454 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
G	GROUNDWATER	METHYLENE CHLORIDE	75-09-2	DICHLOROMETHANE; METHANE, DICHLORO-	U080	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	MOLYBDENUM	7439-98-7	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	NAPHTHALENE	91-20-3	NONE	U165	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	NICKEL	7440-02-0	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	PHENOL	108-95-2	NONE	U188	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	SELENIUM	7782-49-2	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	SILVER	7440-22-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TERT-BUTYL METHYL ETHER	1634-04-4	METHYL TERT-BUTYL ETHER	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TETRACHLOROETHENE	127-18-4	ETHENE, TETRACHLORO-; PERCHLOROETHYLENE; TETRACHLOROETHYLENE	U210	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	THALLIUM	7440-28-0	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TOLUENE	108-88-3	BENZENE, METHYL-	U220	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TOTAL TCDF	51207-31-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TRANS-1,2-DICHLOROETHENE	156-60-5	ETHENE, 1,2-DICHLORO (E); 1,2-DICHLOROETHYLENE	U079	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TRICHLOROETHENE	79-01-6	ETHENE, TRICHLORO-; TRICHLOROETHYLENE	U228	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	TRICHLOROFLUOROMETHANE	75-69-4	METHANE, TRICHLOROFLUORO-	U121	2270 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	VANADIUM	7440-62-2	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	XYLENE (TOTAL)	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	ZINC	7440-66-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	CESIUM-137	NA	NONE	NA	1 Curie	UNKNOWN	UNKNOWN	R	Radiological TCRA (2001-ongoing); Final ROD for Parcel G (2009).
G	GROUNDWATER	COBALT-60	NA	NONE	NA	100 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	HYDROGEN-3	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	PLUTONIUM-239	NA	NONE	NA	0.01 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	RADIUM-226	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	STRONTIUM-90	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	THORIUM-232	NA	NONE	NA	3.7E7 Curie	UNKNOWN	UNKNOWN	R	
G	GROUNDWATER	URANIUM-235 & DAUGHTERS	NA	NONE	NA	3.7E9 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	1,1,1-TRICHLOROETHANE	71-55-6	ETHANE, 1,1,1-TRICHLORO; METHYL CHLOROFORM	U226	454 kg	UNKNOWN	UNKNOWN	R	Sandblast Grit Removal Action (1991-1995); Pickling and Plate Yard Removal Action (1994-1996); Exploratory Excavation Removal Action at IR-33, IR-37 and IR-70 (1996-1997); Storm Drain Sediment Removal Action (1996-1997); Soil TCRA at IR-09, IR-37 and IR-65 (2000-2001); Industrial Process Equipment Survey, Sampling, Decontamination and Waste Consolidation Action (2002); Storm Drain and Sanitary Sewer Removal Action (2007-ongoing); Final ROD for Parcel G (2009).
G	SOIL	1,1,2,2-TETRACHLOROETHANE	79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	U209	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	1,1,2-TRICHLOROETHANE	79-00-5	ETHANE, 1,1,2-TRICHLORO-	U227	45.4 kg	UNKNOWN	UNKNOWN	R	

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Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
G	SOIL	1,1-DICHLOROETHANE	75-34-3	ETHANE, 1,1-DICHLORO-; ETHYLIDENE DICHLORIDE	U076	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	1,1-DICHLOROETHENE	75-35-4	ETHENE, 1,1-DICHLORO-; VINYLIDENE CHLORIDE; 1-1-DICHLOROETHYLENE	U078	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	1,2,4-TRICHLOROBENZENE	120-82-1	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	1,2-DICHLOROETHANE	107-06-2	ETHANE, 1-2-DICHLORO-; ETHYLENE DICHLORIDE	U077	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	1,2-DICHLOROETHENE (TOTAL)	540-59-01	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	2,4-DIMETHYLPHENOL	105-67-9	PHENOL, 2,4-DIMETHYL-	U101	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	2-BUTANONE	78-93-3	MEK; METHYL ETHYL KETONE	U159	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	2-METHYLNAPHTHALENE	91-57-6	BETA-METHYLNAPTHALENE; BETA-METHYL NAPHTHALENE; 2-METHYLNAPTHALENE; METHYL-2-NAPHTHALENE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	2-METHYLPHENOL	95-48-7	O-CRESOL	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	4,4'-DDD	72-54-8	BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO]-; DDD; TDE	U060	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	4,4'-DDE	72-55-9	DDE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	4,4'-DDT	50-29-3	BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-]; DDT	U061	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	4-METHYL-2-PENTANONE	108-10-1	HEXONE; METHYL ISOBUTYL KETONE	U161	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	4-METHYLPHENOL	1319-77-3	CRESOL (CRESYLIC ACID)	U052	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ACENAPHTHENE	83-32-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ACETONE	67-64-1	2-PROPANONE	U002	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ALDRIN	309-00-2	1,4:5,8-DIMETHANONAPHTHALENE	P004	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ALPHA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	U036	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ALUMINUM	7429-90-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	ANTHRACENE	120-12-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ANTIMONY	7440-36-0	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	AROCLOR-1242	53469-21-9	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	AROCLOR-1254	11097-69-1	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	AROCLOR-1260	11096-82-5	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ARSENIC	7440-38-2	NONE	D004	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BARIUM	7440-39-3	NONE	D005	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZENE	71-43-2	NONE	U019	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZO(A)ANTHRACENE	56-55-3	BENZ[A]ANTHRACENE; 1,2-BENZANTHRACENE	U018	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZO(A)PYRENE	50-32-8	3,4-BENZOPYRENE	U022	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZO(B)FLUORANTHENE	205-99-2	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZO(G,H,I)PERYLENE	191-24-2	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BENZO(K)FLUORANTHENE	207-08-9	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BERYLLIUM	7440-41-7	BERYLLIUM POWDER	P015	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BETA-BHC	319-85-7	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	1,2-BENZENEDICARBOXYLIC ACID; BIS(2-ETHYLHEXYL)ESTER; DEHP; DIETHYLHEXYL PHTHALATE	U028	45.4 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G
Finding of Suitability for Early Transfer of Parcels B and G, Hunters Point Naval Shipyard, San Francisco, California

Parcel	Media	Hazardous Substance[a,b]	CAS Number	Regulatory Synonym	RCRA Waste Code	Reportable Quantity	Estimated Quantity	Dates of Storage, Disposal or Release (if known)	Stored (S), Disposed (D) or Release (R)	Action Taken
G	SOIL	BUTYLBENZYLPHTHALATE	85-68-7	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CADMIUM	7440-43-9	NONE	D006	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CARBAZOLE	86-74-8	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	CARBON DISULFIDE	75-15-0	NONE	P022	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CHLOROFORM	67-66-3	METHANE, TRICHLORO-	U044	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CHROMIUM	7440-47-3	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CHROMIUM VI	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	CHRYSENE	218-01-9	NONE	U050	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	COBALT	7440-48-4	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	COPPER	7440-50-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DELTA-BHC	319-86-8	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DIBENZ(A,H)ANTHRACENE	53-70-3	DIBENZO(A,H)ANTHRACENE; 1,2:5,6-DIBENZANTHRACENE	U063	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DIBENZOFURAN	132-64-9	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DIELDRIN	60-57-1	2,7:3,6-DIMETHANONAPTH[2,3-B]OXIRENE	P037	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DI-N-BUTYLPHTHALATE	84-74-2	DIBUTYL PHTHALATE; N-BUTYL PHTHALATE; 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER	U069	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	DI-N-OCTYLPHTHALATE	117-84-0	1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER	U069	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ENDOSULFAN I	959-98-8	ALPHA-ENDOSULFAN	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ENDOSULFAN II	33213-65-9	BETA-ENDOSULFAN	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ENDRIN	72-20-8	ENDRIN & METABOLITES	P051	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ENDRIN ALDEHYDE	7421-93-4	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ENDRIN KETONE	72-20-8	ENDRIN & METABOLITES	P051	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ETHYLBENZENE	100-41-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	FLUORANTHENE	206-44-0	NONE	U120	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	FLUORENE	86-73-7	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	GAMMA-CHLORDANE	57-74-9	CHLORDANE; CHLORDANE, ALPHA & GAMMA ISOMERS; CHLORDANE (TECHNICAL MIXTURE & METABOLITES)	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	HEPTACHLOR	76-44-8	NONE	P059	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	HEPTACHLOR EPOXIDE	1024-57-3	NONE	NA	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	INDENO(1,2,3-CD)PYRENE	193-39-5	1,10-(1,2-PHENYLENE)PYRENE	U137	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	IRON	7439-89-6	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	ISOPHORONE	78-59-1	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	LEAD	7439-92-1	NONE	NA	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	M,P-XYLENES	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	MANGANESE	7439-96-5	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	MERCURY	7439-97-6	NONE	U151	0.454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	METHYLENE CHLORIDE	75-09-2	DICHLOROMETHANE; METHANE, DICHLORO-	U080	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	MOLYBDENUM	7439-98-7	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	NAPHTHALENE	91-20-3	NONE	U165	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	NICKEL	7440-02-0	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	O-XYLENE	95-47-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	PENTACHLOROPHENOL	87-86-5	NONE	F027	4.54 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	PHENANTHRENE	85-01-8	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	PHENOL	108-95-2	NONE	U188	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	PYRENE	129-00-0	NONE	NA	2270 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	SELENIUM	7782-49-2	NONE	NA	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	SILVER	7440-22-4	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	

TABLE A-1b. SUMMARY OF HAZARDOUS SUBSTANCES DETECTED - PARCEL B, EXCLUDING IR SITES 7 AND 18, AND PARCEL G

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G	SOIL	TETRACHLOROETHENE	127-18-4	ETHENE, TETRACHLORO-; PERCHLOROETHYLENE; TETRACHLOROETHYLENE	U210	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	THALLIUM	7440-28-0	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	TOLUENE	108-88-3	BENZENE, METHYL-	U220	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	TRICHLOROETHENE	79-01-6	ETHENE, TRICHLORO-; TRICHLOROETHYLENE	U228	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	VANADIUM	7440-62-2	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	XYLENE (TOTAL)	1330-20-7	BENZENE, DIMETHYL-	U239	45.4 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	ZINC	7440-66-6	NONE	NA	454 kg	UNKNOWN	UNKNOWN	R	
G	SOIL	CESIUM-137	NA	NONE	NA	1 Curie	UNKNOWN	UNKNOWN	R	Radiological TCRA (2001-ongoing);
G	SOIL	COBALT-60	NA	NONE	NA	100 Curie	UNKNOWN	UNKNOWN	R	Final ROD for Parcel G (2009).
G	SOIL	HYDROGEN-3	NA	NONE	NA	NA	UNKNOWN	UNKNOWN	R	
G	SOIL	PLUTONIUM-239	NA	NONE	NA	0.01 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	POTASSIUM-40	NA	NONE	NA	3.7E10 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	RADIUM-226	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	STRONTIUM-90	NA	NONE	NA	0.1 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	THORIUM-228	NA	NONE	NA	3.7E8 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	THORIUM-232	NA	NONE	NA	3.7E7 Curie	UNKNOWN	UNKNOWN	R	
G	SOIL	URANIUM-235 & DAUGHTERS	NA	NONE	NA	3.7E9 Curie	UNKNOWN	UNKNOWN	R	

Notes:

a This table was prepared in accordance with 40 CFR 373 and 40 CFR 302.4. The substances which do not have chemical-specific breakdown (and associated annual reportable quantity) are not listed in 40 CFR 302.4, and therefore have no corresponding regulatory synonyms, no RCRA waste numbers, and no reportable quantities.

b The property may contain pesticide residue from pesticides that have been applied in the management of the property. The Grantor knows of no use of any registered pesticide in a manner inconsistent with its labelling, and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA - 7 U.S.C. Sec. 136, et seq.), its implementing regulations, and according to the labeling provided with such substances. It is the Grantor's position that it shall have no obligation under the covenants provided pursuant to Section 120(h)(3)(A)(ii) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C.Sections 96720(h)(3)(A(ii), for the remediation of legallly applied pesticides.

kg Kilogram
CAS Chemical Abstract Service
CFR *Code of Federal Regulations*
DDD Dichlorodiphenyldichloroethane
DDE Dichlorodiphenyldichloroethane
DDT Dichlorodiphenyltrichloroethane
FIFRA Federal Insecticide, Fungicide, and Rodenticide Act of 1972
NA Not Applicable
PEST Pesticides/Polychlorinated Biphenyls (PCB)
ROD Record of Decision
RCRA Resource Conservation and Recovery Act
SVOA Semivolatile Organic Compounds
TCRA Time-critical Removal Action
VOA Volatile Organic Compounds

References:

ChaduxTt. 2009. "Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California." January 14.
Department of the Navy (Navy). 2009. "Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California." February 18.

APPENDIX B
RESPONSIVENESS SUMMARY

[Not Included in Draft FOSET]