

OAKLAND INNER HARBOR TIDAL CANAL ENVIRONMENTAL BASELINE STUDY SURPLUS PROPERTY DIVESTITURE

Alameda County, California
Fiscal Year 2016

DRAFT SUBJECT TO FURTHER REVIEW BY THE ARMY CORPS



U.S. Army Corps of Engineers

Environmental Section B
San Francisco District
August 2016

Table of Contents

1.0 Introduction.....	3
1.1 Objective/Purpose.....	3
1.2 Methodology.....	4
2.0 Site/Property Location	4
3.0 General Site Settings.....	7
3.1 Current Uses of the Property and Adjoining Properties.....	7
3.2 Past Uses of the Property and Adjoining Properties	8
3.2.1 Oakland Shoreline.....	8
3.2.2 Alameda Shoreline	9
3.3 Current or Past Use of the Surrounding Area.....	9
3.4 Geologic, hydro-geological, hydrologic, or topographic conditions	9
3.5 Facility Information.....	10
3.6 Roads:.....	10
4.0 Investigation Results and Observations	11
4.1 Hazardous Material and Petroleum Products	11
4.1.1 Adjacent Property Owners	13
4.1.2 Boat Traffic within the Canal	14
4.1.3 Storm Water Discharge Points.....	14
4.2 Internal Observations of Facilities.....	14
4.3 External Observations.....	14
4.4 Property Classification	15
4.5 Disclosure of Non CERCLA Issues	16
5.0 Environmental Sampling.....	16
5.1 Soil Sampling	16
5.2 Sediment Sampling.....	16
5.3 Environmental Standards.....	17
6.0 Findings and Conclusions	18
7.0 References	19

1.0 Introduction

1.1 Objective/Purpose

The U.S. Army Corps of Engineers (USACE) purchased a 1.8-mile strip of land between the Cities of Oakland and Alameda for the construction of what is still known as the Oakland Inner Harbor Tidal Canal (OIHTC). The construction of the OIHTC occurred from 1875 to 1902. After its completion, the USACE allowed adjacent property owners, under permit, to build piers and open structures within a fifty foot wide strip on each side of the channel. As it is now, the OIHTC is still owned and maintained by USACE and its centerline marks the boundary between the Cities of Oakland and Alameda. In keeping with current government policy of releasing excess government owned property back to the public sector, the USACE intends to transfer the property to the Cities of Oakland and Alameda or another designated public agency.

Before the property can be transferred, it is important to determine the current environmental condition of the property so that full disclosure can be made upon transfer. The purpose of this Environmental Baseline Study (EBS) is to document the current conditions.

The objective is to classify the OIHTC parcel into one of the DoD property categories to facilitate transfer to civilian use. For this parcel the categories have been applied to the entire parcel. The property classification categories are:

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2: Areas where only release or disposal of petroleum products has occurred.

Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.

Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5: Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

Category 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented.

Category 7: Areas that are not evaluated or require additional evaluation.

1.2 Methodology

This EBS was prepared based upon currently available information and reports. Phase I and Phase II Environmental Sites Assessments were conducted by USACE (USACE, 2014). Add references here for December 2014 Final document. In order to insure that the information in the site assessment document was thorough and complete, the following guidelines were used:

- ASTM E 1527-94, Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process;
- Engineering Regulation 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects;
- Engineering Circular C 1105-2-206, Project Modifications for Improvement of the Environment.

The site assessments relied on research into historical records and documents such as the Sanborne Insurance Maps, land deeds and titles showing ownership of adjacent properties, past and current land usage of those properties, existing Environmental Impact reports, and sources of any potential contamination from these adjacent properties that could have had an adverse impact on the Canal. As part of this search, the USACE hired Environmental Data Resources, Inc. to conduct a review of regulatory agency databases for any historical incidents, such as fuel or chemical spills or releases within a 1-mile distance from the centerline of the Canal (EDR 2003).

In addition to published information, the USACE conducted a door-to-door Survey in May 2003 and June 2004 within the adjacent residential and commercial properties to support and/or augment the results of the historical research and to close any information gaps that may exist on current land usage. If no one was available to complete the questionnaire at a property, a copy of the survey form was left at that address for them to complete and mail into the USACE Sacramento District Office.

Based on information gathered, soil and sediment samples were collected to determine the presence or absence of constituents of concern. Surface drainage from adjacent properties was carefully considered when choosing sample locations. Along with sampling for soil and sediment chemistry, a geophysical survey was conducted.

2.0 Site/Property Location

The OIHTC is a navigable waterway, approximately 85 acres in size, 400-feet wide, and nearly 2 miles long. A narrow strip of shoreline on each side of the canal, approximately 50 feet wide, is included in the property footprint. The Federal property begins approximately 1,800 feet northwest of the Park Street Bridge and terminates at the mouth of San Leandro Bay, see Figures 1 and 2.

The High Street Bridge, the Park Street Bridge and the Miller-Sweeney Bridge span over the OIHTC, are currently owned by Alameda County, and are not part the proposed action. The Fruitvale Avenue railroad bridge, which spans the canal (adjacent to the Miller-Sweeney Bridge), and the footings for the High Street Bridge, the Park Street Bridge and the Miller-Sweeney Bridge, are Federal property and will not be transferred. The Corps will retain the responsibility for maintaining the railroad bridge in accordance with Congressional decisions.

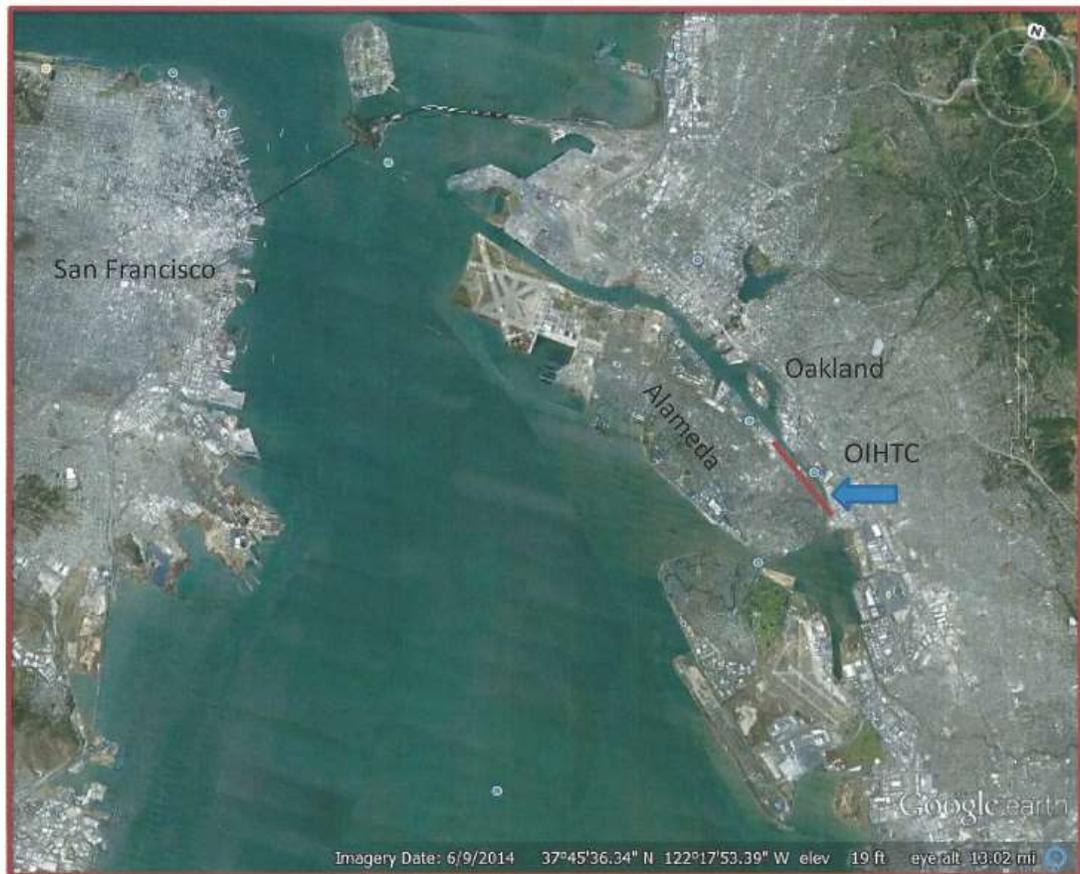


Figure 1 – Location of Oakland Inner Harbor Tidal Canal

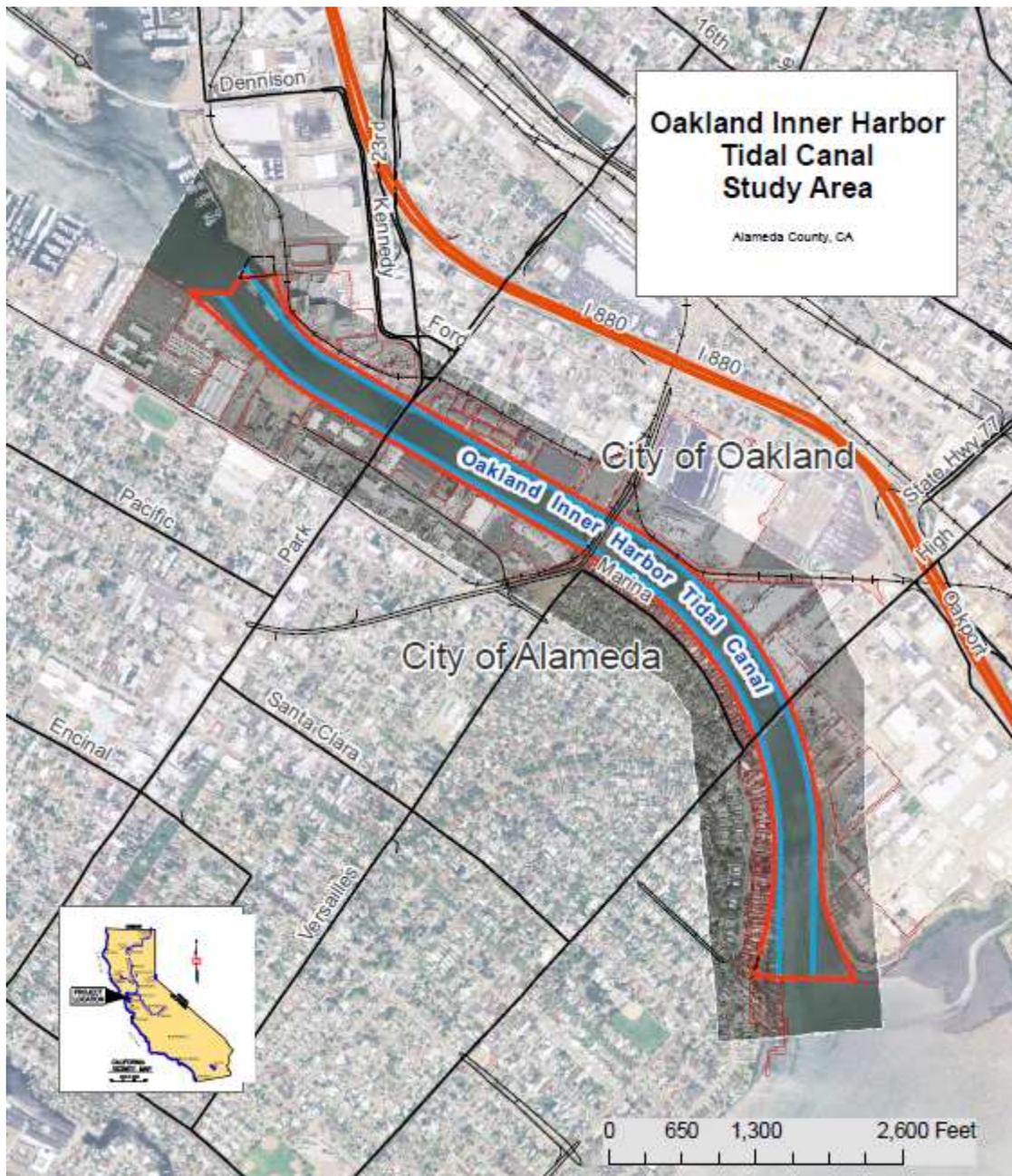


Figure 2 – Aerial Photo of OIHTC

3.0 General Site Settings

The OIHTC was part of the plan conceived by Colonel G. H. Mendell, San Francisco District Engineer 1871-1895, for harbor improvements to the tidal inlet between Oakland and Alameda. Oakland was the first harbor to receive attention by the Corps of Engineers. Commercial ships could navigate as far east as Government Island, where the Estuary narrowed to an unnavigable channel. The channel ended a few hundred yards further east, whereupon a peninsula connected Alameda with Oakland. Most of the area bordering the Inner Harbor was marshlands that became the Oakland Harbor. The OIHTC provided a connection between the tidal basin and San Leandro Bay.

In 1884, the Federal Government took ownership of the OIHTC and commenced dredging operations to create the channel that is known as the OIHTC. Soon after the canal was constructed, adjacent property owners began to encroach on the Federal property by constructing wharfs and docks. On June 3, 1913, the Federal Government issued a license to all owners of property adjacent to the canal. This license granted these property owners permission “. . . to occupy, with open-work, nonpermanent structures for wharf purposes, on the portions of the strip of US property fronting their respective properties and situated between the pier head and bulkhead lines approved January 20, 1913, without special lease or charges of any kind. . . .” The rights granted by this license were “. . . revocable at any time when this area may again be required for purposes of navigation. . . .” In 1929, the pier head and bulkhead lines were combined thus rendering the original license invalid. Regardless of the question of validity of the 1913 license, any existing license would have expired automatically upon transfer of that particular adjacent parcel. Prior to the Regulatory Moratorium, the Corps issued several easements and licenses to construct, repair and maintain structures along the OIHTC, including boathouses and docks along the Alameda side of the canal.

3.1 Current Uses of the Property and Adjoining Properties

The Federal Government has never utilized the canal since it was constructed other than to remove debris from the waterway that posed a hazard to navigation. The term utilization in this context means that the government has never built any structures on the property and has never used the area for storage of any type of material.

The main usage of the canal has been by privately owned watercraft or by watercraft used by adjacent commercial properties to transport their products. Although there was no visual confirmation of active commercial usage during the four USACE site visits, the mooring docks for the commercial barges appear to be in good repair. The deepest portion of the canal is approximately 18 feet which restricts large ships from using the canal as a passage between San Francisco and San Leandro Bays.

Three forms of current research were done to evaluate the site. These were 1) hiring Environmental Data Resources, Inc. (EDR), a professional research organization that specializes in conducting environmental studies, 2) performing two non-intrusive site evaluations on foot and by boat, and 3) conducting interviews and surveys of the property owners and/or tenants on the adjoining properties.

The adjoining properties along the Alameda portion of the canal are approximately 50% residential and 50% commercial usage. Commercial activities include but are not limited to boat repair shops, marinas, a shopping center, warehouses, a restaurant, and a convalescent home. The adjoining properties along the Oakland portion of the canal are 100% commercial usage. The three houses on the Oakland side which were not deeded and were not considered residential usage for this report have been removed. Commercial activities include but are not limited to sand and gravel operations, warehouses, boat dealership and marinas.

3.2 Past Uses of the Property and Adjoining Properties

Historical research was conducted by USACE project team members at Oakland and Alameda Public Libraries, University of Berkeley Library, Corps of Engineers San Francisco and Sacramento District map and real estate files and County of Alameda Assessors Office. Air Photographs on file in the San Francisco District offices were also evaluated for property usage. Sanborne maps for the site were collected for early property usage and at 10 year intervals to check for changes in property use.

The result of the study indicated that the type of property usage did not change through time. Residential properties remained residential and commercial properties remained commercial through time.

3.2.1 Oakland Shoreline

Since the 1913 license mentioned above, a total of 22 residential structures have encroached on the Oakland side of the canal. As of February 25, 1960, the City of Oakland declared all these structures public nuisances as well as health and safety hazards and requested the Federal Government notify the occupants that they were trespassers. Subsequently, the City of Oakland demolished all condemned structures that were entirely or partially built on city property. Three structures located at 3221, 3223 and 3225 Alameda Avenue were not removed by the City because they were situated entirely on Federal property and the City did not have the authority to remove them.

USACE determined that the three Alameda Avenue structures did not have any redeeming historical significance and that they were, in fact, health and safety hazards. In February and March of 2005 USACE served the owners of these structures with notice to remove them within 120 days. Pursuant to Consent Decrees of December 2007, the owners of the structures agreed to remove the structures in accordance with all federal, state, and local laws and regulations. These three structures were subsequently demolished by the owners.

3.2.2 Alameda Shoreline

Residential Activities

There are several encroachments on the Alameda side of the canal. These encroachments consist of docks and boathouses that are attached to adjacent parcels and some are not entirely situated on Federal land. There are approximately 93 residential parcels adjacent to the canal and most of these properties contain structures accessing the canal. Most of the property owners received easements and licenses from USACE to construct the existing structures. However, after the Permitting Moratorium, most of these real estate licenses have expired leaving most of the existing structures technically in trespass.

Commercial Activities

Similar to the residential area, there are a few structures in the commercial area on the Alameda side of the Federal property (Park Street Marina, Dutra Construction dock, and Stone Boat Yard docks), which were constructed under real estate licenses from USACE.

The property located at 2235 and 2241 Clement Avenue adjacent to the canal is owned by Francis Collins. The former tenant on this property, Nelson's Marine, conducted sand blasting operations using silica and nickel slag blast grit. Other previous tenants slag blasted with copper and other abrasives. These activities impacted a portion of the OIHTC on Federal property.

3.3 Current or Past Use of the Surrounding Area

Uses of the areas surrounding the OIHTC have been relatively constant over time. The surrounding areas on the Alameda side of the canal are predominantly residential. The residential, commercial and industrial properties that adjoin the canal are sited within this larger residential setting. The surrounding area of the Oakland side of the canal is much more industrial/commercial in nature.

3.4 Geologic, hydro-geological, hydrologic, or topographic conditions

The site is underlain by the Pleistocene Merritt Sand, which consists of unconsolidated deposits of sand, silt, and clay. The most recent material, Young Bay Mud, is currently being deposited within the canal and adjacent basins. The results of the Geophysical work indicate that very little of the Young Bay Mud is actually being retained within the canal. Portions of some of the adjacent properties contain artificial fill material, most of which was dredged from local sources. The general topography is relatively flat with typical elevations ranging from 8 to 12 feet above mean sea level. The regional topography slopes gently to the north or northwest, which may be a reflection of the location of the site on the northern side of the Franciscan Synform. The Hayward Fault lies approximately 10 miles to the northwest and is the closest known active fault to the site. For a more extensive discussion on the local geology and hydrogeology refer to Figuers, 1998.

The canal straddles the boundary between the Oakland sub-area and the Central sub-area of the San Francisco Basin. The boundaries of the Central sub-area are based on the presence of the Young Bay Mud. The boundary between the Central sub-area and the Oakland sub-area

represents an arbitrary demarcation between areas where underlying deposits are primarily alluvial fan/continental deposits (Oakland sub-area) and where the underlying deposits contain the classical sedimentary section as described in Figures, 1998. Deeper aquifers (300-700 feet) are poorly defined and are most productive in channel areas within the buried alluvial fan deposits such as the Alameda-Fitchburg Trend. The Merritt Sand was the most prolific shallow aquifer (up to 60 feet deep below ground surface) historically and was the primary supply for the western section of Oakland until the water quality started to decline in the 1890's due to contamination from septic systems and increasing salt content created by groundwater withdrawal. Shallow groundwater in the vicinity of the canal tends to be brackish and considered unsuitable for drinking water purposes.

3.5 Facility Information

The property to be transferred is a waterway and does not have any government owned buildings or facilities on it. Although this is a waterway there are utilities to consider. Other improvements on site include utility lines which cross the canal and outlets for storm water discharge on both sides of the canal. The utility lines are buried beneath the canal bottom and the crossings are well marked. The storm water discharge pipes are generally small with the exception of the City of Oakland outfall located to the south of the Fruitvale Bridge. None of these improvements are owned, operated, or maintained by the Federal Government. These storm drain locations were taken into consideration when determining sampling locations.

There are no water supply, sewage disposal or fire protection features on the OIHTC parcel.

3.6 Roads:

Included in this classification are bridges. There are three major bridges that cross the canal between the Cities of Oakland and Alameda. The High Street Bridge, the Park Street Bridge and the Miller-Sweeney Bridge span over the OIHTC, are currently owned by Alameda County, and are not part the proposed action. The Fruitvale Avenue railroad bridge, which spans the canal (adjacent to the Miller-Sweeney Bridge), and the footings for the High Street Bridge, the Park Street Bridge and the Miller-Sweeney Bridge, are Federal property and will not be transferred. The Corps will retain the responsibility for maintaining the railroad bridge in accordance with Congressional decisions.

The Fruitvale Avenue Railroad Bridge, which is currently not in use, is inspected annually by the USACE Sacramento District. Bridge maintenance is performed by the County of Alameda. The USACE Periodic Inspection reports indicate that portions of the Fruitvale Avenue Railroad Bridge have been repainted as part of the annual maintenance. Report 5, dated 15 January 1982 describes at least 5 separate occasions where different parts of the bridge were repainted. However, no mention is made as to whether the old paint was removed or what type of paint was used. The original maintenance records are on file with the County of Alameda.

As defined above there are no roadways as a part of this disposal action.

4.0 Investigation Results and Observations

As stated above, the property to be disposed of is a waterway with limited shoreline areas. As such there were no storage tanks, odors, pools of liquids, drums, hazardous wastes/waste petroleum products, unidentified substance containers, electrical hazards, radiological hazards, PCB containing equipment nor medical/biohazardous wastes observed on the OIHTC property. Without being able to visually inspect a submerged portion of the parcel to be disposed of, assumptions had to be made about potential impacted areas.

4.1 Hazardous Material and Petroleum Products

The evaluation and literature research for the Phase I Baseline Study were performed in May 2003 and June 2004 by the Environmental Engineering Section of the U. S. Army Corps of Engineers, Sacramento District (USACE). The door-to-door survey was done by PK Consultants, Inc. located in Oakland, California, and the Corridor Study was performed by EDR. EDR conducted a review of regulatory agency databases for a 1-mile distance from the centerline of the canal. The results of this study are documented in their Corridor Study Report (EDR, 2003).

The records search included the following databases:

- CERCLIS-NFRAP: Comprehensive Environmental Response, Compensation and Liability Information System – No Further Remedial Action Planned.
- RCRIS-LQG: Resource Conservation and Recovery Information System - Large Quantity Generator.
- ERNS: Emergency Response Notification System - records and stores information on reported releases of oil and hazardous substances.
- AWP: California DTSC's Annual Work Plan - identifies known hazardous substance sites targeted for cleanup.
- CAL-SITES: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites.
- CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents.
- CORTESE: This database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from which there is known migration.
- NOTIFY 65: Notify 65 records contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk.
- LUST: The leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents.
- UST: The Underground Storage Tank database contains registered USTs.

- CA FID: The Facility Inventory Database contains active and inactive underground storage tank locations.
- HIST UST: Historical UST Registered Database.
- FINDS: The Facility Index System contains both information and "pointers" to other sources of information that contain more detail.
- HMRIS: The Hazardous Materials Incident Report System contains hazardous material spill incidents reported to the Department of Transportation.
- RAATS: The RCRA Administration Action Tracking System contains records based on enforcement actions issues under RCRA and pertaining to major violators.
- TRIS: The Toxic Chemical Release Inventory System identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313.
- TSCA: The Toxic Substances Control Act identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list.
- SSTS: Section 7 of the Federal Insecticide, Fungicide, Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environment Protection Agency by March 1st of each year.
- FCTS: FCTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act) over the previous five years.
- AST: The Aboveground Storage Tank database contains registered ASTs.
- DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers.
- WDS: California Water Resources Control Board – Waste Discharge System.
- DEED: The use of recorded land use restrictions is one of the methods the DTSC uses to protect the public from unsafe exposures to hazardous substances and wastes.
- NFE: This category contains properties that are suspected of being contaminated.
- CA SLIC: This database is maintained by the California Regional Water Quality Control Board.
- HAZNET: The data is extracted from the copies of hazardous waste manifests receive each year by the DTSC.

Although the results of this effort found a number of sites in the searched area, none of the sites were located on the USACE property. There was no evidence of contamination of the USACE property attributable to government ownership or usage. This was not unexpected since the only USACE activity after the initial construction of the Canal, was to perform general maintenance such as debris removal, or clearance of navigational hazards such as abandoned boats in the canal proper. However, there was still a potential that contamination could exist on the property from three non-governmental sources: adjacent property owners, boat traffic within the canal, and/or storm water discharge points into the canal.

4.1.1 Adjacent Property Owners

As stated above, about half of the adjacent properties on the Alameda side and all of the adjacent properties on the Oakland side are commercial/industrial. As would be expected in this setting, the records search by EDR (EDR, 2003) identified numerous sites on or near adjacent parcels where hazardous materials or petroleum products were used, stored, manifested and shipped. In some cases there are known releases to the environment. The areas of known releases that either have or could have impacts on the OIHTC property are discussed below.

2235 & 2241 Clement Avenue: The property located at 2235 and 2241 Clement Avenue adjacent to the canal is owned by Francis Collins. The former tenant on this property, Nelson's Marine, conducted sand blasting operations using silica and nickel slag blast grit. Other previous tenants slag blasted with copper and other abrasives. These activities impacted a portion of the OIHTC on Federal property.

Due to contaminants present on the property, the San Francisco Regional Water Quality Control Board (SFRWQCB) issued Order R2-2002-0091 (SFRWQCB, 2002) for the clean-up of the site. USACE submitted a Corrective Action Plan (CAP) to meet the final site clean-up requirements of the SFRWQCB. The CAP actions have been completed and the SFRWQCB issued Order R2-2014-0026 (SFRWQCB 2014) which rescinded the previous order.

2301 – 2337 Blanding Avenue: The property located at 2301 through 2337 Blanding Avenue is also known as the Park Street Landing. This is a site with gasoline detected in groundwater. The site is currently being addressed by Chevron in coordination with Alameda County Environmental Health Services. A draft Corrective Action Plan has been submitted (GeoTracker, 2016).

2421 Blanding Avenue: This site is known as Allied Engineering and Production Corporation. Since 1941 this site was used for iron works manufacturing, machining operations and the manufacture of precision hardware. Materials used or stored included hazardous materials, hydraulic oils, lubes, greases, fuels, coolants and solvents. The RWQCB is coordinating a response action with the property owners. A recent investigation was conducted by the land owner, (Geologica 2014), which confirmed previous efforts that there are metal shavings from site operations that have impacted federal property.

2517 Blanding Avenue: This site is known as Stone Boatyard. A Phase II Environmental Site Assessment was conducted in November 2004, (Questa, 2004). This assessment did recommend actions on the parcel but not on the federal property. It did however identify the metal shaving area on the adjacent Allied Engineering and Production Corporation site noted above.

4.1.2 Boat Traffic within the Canal

Potential discharges from typical boat traffic would be very difficult to define. With the nature of this site being aquatic, any releases would be dispersed prior to contacting the site sediments. Point sources are not anticipated. The sampling conducted was sufficient to make conclusions about the general levels of any constituents of concern from decades of use.

A geophysical survey was conducted to map the contours of the canal floor to determine the depth of sediment that has accumulated since its initial construction and to locate the position of buried pipelines and anomalies such as sunken vessels and/or debris. The survey consisted of side-scan sonar which was used to produce a mosaic of acoustic images of seafloor objects; a magnetometer survey to produce locations and contour maps of buried ferrous (metal) objects; and sub-bottom profiling to determine the sediment thickness and the geologic layers beneath the canal bottom. This survey was conducted by Sea Surveyor, Inc. (Sea Surveyor, 2009).

4.1.3 Storm Water Discharge Points

Storm water discharge points were taken into consideration when developing the sampling plan for the parcel. Soil samples were collected from 20 locations and sediment samples were collected from 23 locations along the canal. The samples were analyzed for a myriad of analytes.

4.2 *Internal Observations of Facilities*

As mentioned above there are no facilities on the parcel to be disposed of. For this reason there were no observations of heating and cooling systems, stains and corrosion, drains and sumps, waste piles, abandoned drums, debris, odors, incinerators, ovens, heaters, etc associated with buildings.

4.3 *External Observations*

Two site evaluations were performed at the site, one on 5 May 2003 and the second on 2 June 2004. The site evaluation was a visual assessment of the conditions that existed at the site. During the initial visit, notes and photographs were taken to document areas that may be of concern during the next phase of the investigation. The second trip was made to confirm the initial information and/or to fill in information that may have been insufficient to determine sample locations. It was also an opportunity to assess changing conditions on adjacent properties.

Elizabeth A.: The Elizabeth A. was an abandoned ship approximately adjacent to APN 071-0290-001-00. The ship tended to drift into the navigational portion of the canal and was considered a threat to navigation. Since it was considered a threat, the U.S. Coast Guard took the responsibility for removing the Elizabeth A. from the site. The Coast Guard also removed and disposed of approximately 20,000 gallons of petroleum contaminated water which were contained

inside the Elizabeth A. and the abandoned 55-gallon drums that were left on the deck area. The site evaluations occurred before the Elizabeth A was removed from the site. At that time, there was no visual evidence during either of the site evaluations that the petroleum contaminated water contained within the Elizabeth A. or the drums that have been left on deck have leaked into the canal.

Abandoned boats: The number and location of abandoned boats within the harbor is unknown and changes over time. Some of the abandoned boats left between the BH line and the PH line are occupied by transients. These boats may add contamination from petroleum products to the waters within the canal. Locations of the submerged boats was determined by the geophysical survey (Sea Surveyor, 2009). The results of the Geophysical Survey indicate that the canal is in good physical condition and is continuing to function in accordance with its intended purpose, requiring only minimal maintenance.

4.4 Property Classification

Based on a review of available data the following table documents the hazardous substances known to have been stored or released on the property, and the remedial actions taken.

Property Description	ECP Condition Category	Remedial Actions
2235 & 2241 Clement Ave	4	Soils removal for metals impacts to soil. All activities are completed and the RWQCB has closed the site, per RWQCB Order R2-2014-0026 dated June 11, 2014.
2301 – 2337 Blanding Ave	2	Petroleum produce contamination emanating from an adjacent parcel. This is being addressed by the responsible party in coordination with the RWQCB. No federal actions have been identified.
2421 Blanding Ave	4	Metals contamination emanating from an adjacent parcel. This is being addressed by the responsible party in coordination with the RWQCB. No federal actions have been identified.
The information contained in this table is required under the authority of regulation promulgated under section 120(h) of the Comprehensive Environmental Response, Liability and Compensation Act (CERCLA or “Superfund”) 42 U.S.C. §9620(h). This table provides information on the storage of hazardous substances for one year or more in quantities greater than or equal to 1,000 kilograms or the hazardous substance’s CERCLA reportable quantity (whichever is greater). In addition, it provides information on the known release of hazardous substances in quantities greater than or equal to the substances CERCLA reportable quantity. See 40 C.F.R. Part 373.		

4.5 Disclosure of Non CERCLA Issues

As stated above there are not currently or have there been any federal facilities on the parcel. Private structures that may exist are not a part of this transfer. There are no records to indicate sources nor observed sources for many non-CERCLA issues such as asbestos, lead based paint, PCBs, radon, ordnance, radionuclides, waste management, sanitary sewer systems, nor RCRA facilities/SWMUs.

5.0 Environmental Sampling

The sections below discuss the sampling performed specifically for determining the conditions of the property to be disposed of. Section 4.1.1 identifies adjacent properties which have undergone characterization sampling efforts. In some cases those efforts extended onto federal property. Data gathered during those efforts has been summarized and the details can be found in the documents referenced in Section 4.1.1.

Details regarding the sampling efforts described below may be found in the Phase I & II Baseline Study (USACE 2014).

5.1 Soil Sampling

Personnel from the Environmental Geology Section (EGS) and the Environmental Design Section (EDS), Sacramento District, USACE performed the fieldwork for the soils investigation. Soil samples were collected from 2 through 5 August 2004 along the waterside of the canal, on both right and left banks, from the area between the bulkhead and the mean low water level. The locations were based on previous and current usage of the adjacent properties, site accessibility, and professional judgment of the onsite geologist.

Soil samples were collected from 20 locations along the canal. Discrete samples were collected at each location from depths of 0-6 inches and 2.0 to 2.5 feet below ground surface (bgs). The soil samples collected were analyzed for gasoline range organics (GRO); diesel range organics (DRO), volatile organic compounds (VOCs) and oxygenates; semi-volatile organic hydrocarbons (SVOCs), and the Title 22 metals of the California Code on Hazardous Waste.

Details from this sampling effort can be found in the OIHTC Phase I & II Baseline Study (USACE, 2014).

5.2 Sediment Sampling

Geophysical work was performed by Sea Surveyor, Inc. under USACE San Francisco District Contract No. W912P7-06-D-0004 to Bestor Engineering. Personnel from the Sacramento District were present during the geophysical survey and were responsible for the collection of the sediment samples.

Sediment samples were collected from 25 to 27 August 2008. The original Scope of Services to Sea Surveyor, Inc. required the collection of the sediment samples at two depths at each location using a Vibracore™ sampler. The bottom of the canal is extremely hard and is thought to be the original cut line from the canal construction. The Vibracore™ sampler was unable to penetrate the bottom of the canal. The sampling strategy was modified to collect a single sample at each location which would extend the breadth of coverage. This extended coverage was thought to better represent the entire extent of the canal. Sediment along most of the bottom is generally thin and forms isolated or discontinuous patches most likely due to tidal scour. By using a Ponar grab sampler, enough sediment was collected at the 23 locations to be considered representative of the conditions within the canal.

Sampling locations were slightly biased toward those areas where contamination was found in the soil samples. The thinness of the sediment accumulation allowed only one grab sample to be taken at each sample location. The sediment samples were analyzed for the same analytes as the soil samples with the exception of VOCs.

Details for this sampling effort can be found in the OIHTC Phase I & II Baseline Study (USACE, 2014) and the OIHTC 2009 Sediment Sampling and Analysis Report (USACE, 2016).

5.3 Environmental Standards

The quality of the soil data collected during this investigation was evaluated and found to be sufficient to use for risk evaluation. The complete Risk Screening Evaluation is located in the Phase I and II Baseline Study, (USACE 2014). The quality of the sediment data collected during this investigation was evaluated and found to be sufficient to use for an ambient evaluation. Sediment data is also of sufficient quality to determine if soil chemicals of concern are impacting the canal.

Based on the analytical results of the soil analyses and the Human Health Risk Evaluation, five locations were determined to warrant further investigation to determine the extent of the COPCs at those sites. The primary concern to be addressed was the metals specific to each location. The risk drivers associated with the soil samples were arsenic, chromium, lead, mercury and benzo(a)pyrene.

Additional sampling of the soils to determine the vertical and lateral extent of those specific metals was recommended but on returning to the site it was found that the sites either no longer existed (having been covered by rip rap) or there was insufficient area available for additional sampling. Because of the inability to obtain additional soil samples, it was decided to bias the sediment samples to emphasize these areas.

Concentrations of the inorganic constituents in sediment samples are near or below ambient concentrations at nearby Oakland Army Depot. Ubiquitous, trace concentrations of

benzo(a)pyrene, polychlorinated biphenyl (PCB) and PAHs in general, have no particular distribution indicating the absence of a nearby point source.

The widespread distribution of benzo(a)pyrene is believed to be the result of both diesel contaminations primarily from boat traffic within the canal and from storm water runoff over asphalt located on adjacent properties and streets that flow from storm drains into the canal.

No additional sediment sampling is recommended. The results of the sediment analysis indicate that potential soil impacts do not appear to have impacted adjacent sediments. The OIHTC can be transferred without further characterization.

6.0 Findings and Conclusions

The OIHTC is a very unique parcel with a unique history. It was obtained by the federal government for the purpose of constructing a navigable waterway. Since its construction the vast majority of the OIHTC parcel has been submerged. The federal government has never utilized the property for any other purpose. So there are no government facilities, such as, buildings or utilities. The amount of property that is not submerged is a small fraction of the parcel.

Since this parcel is primarily submerged there have been very few environmental impacts over the years. Furthermore since the federal government has not utilized the parcel there are no impacts attributable to the government. As described by this document, all known contaminants issues have been addressed or are being addressed by other responsible parties. There are no federal actions left to be taken for this parcel. All known impacts are identified in this EBS.

The data indicate that the nearby point sources in soils have not impacted the sediments of the canal. Concentrations of the inorganic constituents in sediment samples are near or below ambient concentrations at nearby Oakland Army Depot. The results of the Geophysical Survey indicate that the canal is in good physical condition and is continuing to function in accordance with its intended purpose, requiring only minimal maintenance.

The few areas where impacts have occurred have been documented and all federal actions have been completed. The overall Environmental Condition of Property has been determined to be a Category 4 and is suitable for disposal for civilian reuse.

7.0 References

- EDR 2003 - The EDR Corridor Study Report, Study Area, Oakland Canal, Oakland, CA, Environmental Data Resources Inc., March 24, 2003.
- Figuers 1998 - Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, CA, Figuers, s., June 15, 1998.
- Geologica, 2014 - Limited Phase II Investigation, Allied Engineering Property, 2421 Blanding Avenue, Alameda, CA – Geologica , Sept 18, 2014
- GeoTracker, 2016 - GeoTracker web based database, State Water Resources Control Board http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T06019744728, Accessed August, 15, 2016.
- Questa, 2004 - Phase II Environmental Site Assessment, Stone Boatyard, 2517 Blanding Avenue, Alameda, CA, Questa Engineering Corp, November 2004.
- Sea Surveyor, 2009 – Final Report, Oakland Tidal Canal, Geophysical Survey & Sediment Sampling, Sea Surveyor Inc., March 2009
- SFRWQCB, 2002 – Order No R2-2002-0091, Adoption of Site Cleanup Requirements (Order No. R2-2001-0091) for: Cal Steel Coating/US Army Corps of Engineers, Alameda and Oakland Harbor Channel, Alameda County, San Francisco Regional Water Quality Control Board, September 18, 2002.
- SFRWQCB, 2014 – Rescission of Site Cleanup Requirements (Order No. R2-2001-0091) for: Cal Steel Coating/US Army Corps of Engineers, San Francisco Regional Water Quality Control Board, June 11, 2014.
- USACE, 2014 – Oakland Inner Harbor Tidal Canal (OIHTC), Phase I and II Baseline Study, Final, USACE, Sacramento District, December 2014
- USACE, 2016 – Oakland Inner Harbor Tidal Canal (OIHTC), 2009 Sediment Sampling and Analysis Report, Final, San Francisco District, August 2016.