FINAL REMOVAL ACTION WORK PLAN
LENDRUM COURT
PRESIDIO OF SAN FRANCISCO, CALIFORNIA

Approval Record

THE PRESIDIO TRUST
103 Montgomery Street, P.O. Box 29052
San Francisco, California 94129

Francene Gonek
Acting Executive Director

8/3/15
Date

CALIFORIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
700 Heinz Avenue
Berkeley, California 94710

Denise Tsuji
Unit Chief

8/5/15
Date

Presidio Trust

103 Montgomery Street
P.O. Box 29052
San Francisco, CA 94129-0052
T (415) 561-5300
www.presidio.gov

July 30 2015

Mr. George Chow
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710-0052

Subject: Transmittal of the Final Removal Action Work Plan
Lendrum Court
Presidio of San Francisco

Dear Mr. Chow:

Enclosed is the *Final Removal Action Work Plan, Lendrum Court, Presidio of San Francisco*, (RAW) prepared by TRC Solutions, for the Presidio Trust (Trust). The Final RAW incorporates DTSC comments received via email on July 29, 2015. The Trust requests DTSC approval of the Final RAW.

Thank you for your support in finalizing this document. Please give me a call if you have any questions or wish to discuss.

Sincerely,

Nina Larssen
Remediation Project Manager

Cc: Bruce Handel, USCOE (Electronic copy)
Eileen Fanelli, TRC Solutions

Attachment

TRC
Results you can rely on

FINAL
REMOVAL ACTION WORK PLAN
LENDRUM COURT
PRESIDIO OF SAN FRANCISCO, CALIFORNIA

THE PRESIDIO TRUST
103 Montgomery Street, P.O. Box 29052
San Francisco, California 94129-0052

TRC Project No. 229649

July 30, 2015

TRC
9685 Research Drive
Irvine, California 92618
(949) 727-9336

FINAL
REMOVAL ACTION WORK PLAN
LENDRUM COURT
PRESIDIO OF SAN FRANCISCO, CALIFORNIA

July 30, 2015

Prepared for

THE PRESIDIO TRUST
103 Montgomery Street, P.O. Box 29052
San Francisco, California 94129-0052

Prepared By

Signature of Eileen Fanelli 1

Eileen Fanelli, PG #6630
Remediation Program Manager

Signature of Ross Surrency 1

Ross Surrency, PG
Senior Project Geologist

PROFESSIONAL GEOLOGIST
ROSS E. SURRENCY
No. 8005
STATE OF CALIFORNIA

TRC
9685 Research Drive
Irvine, California 92618
Telephone 949-727-9336
Facsimile 949-727-3022

Table of Contents

TABLES

FIGURES

APPENDICES

ACRONYMS

ADMMP	Air and Dust Monitoring and Mitigation Plan
ARARs	Applicable or Relevant and Appropriate Requirements
bgs	below ground surface
BMPs	Best Management Practices
CDFA	California Department of Food and Agriculture
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	chemical of concern
CRP	Community Relations Plan
CSM	conceptual site model
cy	cubic yard
DG	decomposed granite
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency
EPC	exposure point concentration
FDS	fuel distribution system
GGNRA	Golden Gate National Recreation Area
GREM	green remediation evaluation matrix
HSC	Health and Safety Code
HSP	Health and Safety Plan
IIPP	Injury and Illness Prevention Program
IS	Initial Study
LUCs	land use controls
LUCMRR	Land Use Controls Master Reference Report
MOA	memorandum of agreement
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NPS	National Park Service
OEHHA	Office of Environmental Health Hazard Assessment
O&M	operation and maintenance
PAHs	polyaromatic hydrocarbons
PEA	Preliminary Endangerment Assessment
PCOC	Potential Chemical of Concern
PM	particulate matter
PRG	preliminary remediation goal
PTMP	Presidio Trust Management Plan
RAO	removal action objective
RAW	Removal Action Work Plan
RI	Remedial Investigation
RDIP	Remedial Design Implementation Plan
RWQCB	Regional Water Quality Control Board
SSL	soil screening level
TBCs	to be considered
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin

TEQ	toxicity equivalence
TMV	toxicity, mobility, or volume
USEPA	United States Environmental Protection Agency
USGS	United States Geological Society
UTL	upper tolerance limit

EXECUTIVE SUMMARY

This Removal Action Work Plan (RAW) has been prepared for Lendrum Court (the Site), Presidio of San Francisco, California (Presidio) by TRC on behalf of the Presidio Trust (Trust). This RAW summarizes the processes used to develop and evaluate alternatives to remediate contamination identified at the Site. In accordance with regulations, a Draft RAW was released for a 30-day public comment period. After the public comment period ended, the Department of Toxic Substances Control (DTSC), in consultation with the Trust, prepared responses to comments received, and this Final RAW was prepared. This RAW serves as the decision document for site remediation.

The Site is located in the northwest corner of the Presidio, north of Doyle Drive, in the North Fort Scott Area. The North Fort Scott neighborhood includes 17 residential buildings containing 42 units housing approximately 110 tenants. Army-era debris fill and incinerator ash are present in subsurface soils in the area of Buildings 1257, 1258, 1259, 1278, 1279, 1280, and 1282, which are located on Lendrum Court and Armistead. The Site generally slopes to the northeast in a series of terraces, likely graded as building pads for the residential units and parking lot area. The sloping areas between the terraces are landscaped with grasses and shrubs. A heavily wooded area, designated as Historic Forest, is located east of buildings 1259, 1278, and 1279.

It is believed that a former incinerator located just south of Lendrum Court is the source of the debris and ash. The incinerator operated prior to 1936 when the present day Doyle Drive was constructed. The incinerator area was covered by Doyle Drive. In January 2015, the area of the former incinerator was uncovered during construction of the Doyle Drive Replacement Project. The incinerator area is located south of Lendrum Court between Highway 101 and the connector (referred to as the hook-ramp) of northbound Highway 1 to northbound Highway 101. The incinerator area is considered part of the Site. The incinerator area also contained ash and debris. Much of the ash and debris was excavated and disposed of at a licensed waste disposal facility by the California Department of Transportation (Caltrans) as part of highway construction. Residual debris and soil containing elevated lead was left in place and capped with new highway pavement or with a 2-foot thick soil cap. The area is currently inaccessible to the public. Once the Doyle Drive Replacement Project is complete, this area will function as a drainage swale between Highway 101 and the connector ramp from Highway 1 to northbound Highway 101. Landscape plants installed as part of the Doyle Drive Replacement Project will be maintained by Caltrans and the Trust. Because the cap prevents potential exposures to the debris, ash, and contaminated soil, the existing cap, if maintained, is considered protective of human health and the environment. This RAW also summarizes known conditions at the Site and proposes maintenance of the existing cap as the remedy for the incinerator area.

Starting in 2010, several phases of site investigation were conducted in the Lendrum Court area in response to tenant complaints of glass fragments in soil surrounding the residential buildings. The glass fragments were brought up to the surface by gopher activity. A Remedial Investigation (RI) summary report was prepared by Erler & Kalinowski, Inc. (EKI) and approved by the DTSC on May 19, 2015. The RI delineated site boundaries and the extent of waste fill, and identified the following chemicals of concern (COCs):

- Debris Fill Area
    - Metals – arsenic, barium, copper, lead and zinc;
    - PAHs – benzo(a)pyrene, benzo(a)pyrene equivalents and dibenzo(a,h)anthracene;
    - Dioxins/Furans – 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxicity equivalence (TEQ).
- Outside Debris Fill Area
    - Metals – lead; and
    - Dioxins/Furans - TCDD TEQ.

Based on the presence and concentrations of COCs in soil at the Site, soil over an approximate 2.4-acre area to depths of about 5 feet poses a potential risk to human health and the environment and requires remediation. TRC estimates that the in-situ volume of contaminated soil with concentrations of COCs above cleanup levels is approximately 19,500 cubic yards (cy).

Following the discovery of the incinerator area in January 2015, the Doyle Drive contractor removed and disposed of an estimated 1,000 cy of soil contaminated with debris and ash. An additional approximately 1,800 cy of soil was stockpiled and the site was graded in accordance with the applicable highway design documents. The final grade included a 2-foot thick cap of clean soil. The remaining in-situ soil and the stockpiles were sampled to determine whether lead and dioxin/furans were COCs. Based on this sampling, lead is identified as the COC in in-situ soils in the incinerator area.

Current and planned future land use at the Site is residential in the area surrounding Lendrum Court, with the area to the east maintained as Historic Forest, and the incinerator area maintained as a highway and drainage swale. The Removal Action Objectives (RAOs) for the Site include the following:

- Protection of human health and the environment consistent with the intended future land use: As required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the removal alternatives considered must be protective of human health and the environment. Protection of human health and the environment can be met in several ways, including cleanup of COCs to meet the applicable Lendrum Court cleanup levels or using land use and engineering controls to prevent exposure to COCs.
- Cost-effective cleanup of the site: Cost-effectiveness is an objective addressed by identifying removal alternatives that meet all removal objectives for the least cost. In practice, not all removal alternatives meet all removal objectives equally; therefore, the most cost-effective alternative is not necessarily the least cost alternative.
- Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Removal alternatives are evaluated for their ability to meet chemical-, location-, and action-specific requirements that include specific regulations or advisories applicable to the Presidio.

Considering land uses and RAOs, the following removal alternatives were evaluated:

- Alternative 1 – No Action: No remediation measures would occur under this alternative. As required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 Code of Federal Regulations (CFR) 300.420(e)(6), this alternative was retained for detailed analysis as a baseline for comparison with other alternatives.
- Alternative 2 – Excavation: This alternative consists of excavation, characterization, transportation, and offsite disposal of Army-era debris and incinerator ash and related COC-impacted soil at a licensed landfill facility. The estimated volume of soil that would be excavated from the Site (based on the estimated in-situ volume of soil containing COCs and a 15% expansion factor) is approximately 22,500 cy. To access the subsurface impacted soil for excavation, existing residences and asphalt parking and roadways would have to be demolished and removed; additionally, many trees from the Historic Forest would need to be removed. The Site would be backfilled with imported soil as necessary to stabilize slopes and restore grades. The import fill material would be sampled at a frequency and for an analytical suite consistent with DTSC guidance (DTSC, 2001).
- Alternative 3 – Consolidation and Capping, with Land Use Controls (LUCs) and Post-Remediation Monitoring: This alternative would combine multiple technologies including removal/consolidation of Army-era debris and incinerator ash from the shallow sub-surface, placement of a vegetated soil cover layer, and implementation of LUCs with subsequent monitoring as a component of post-remediation operations and maintenance (O&M). In the incinerator area, the existing 2-foot thick soil cap would be maintained. In the Lendrum Court area, a new cap would be installed. Contaminated material that cannot be consolidated within the capped area limits would be excavated, characterized, and transported for offsite disposal at a licensed landfill facility. Confirmation samples would be collected to ensure COCs in areas not capped met site-specific cleanup levels. The volume of soil that would be removed is estimated to be approximately 1,500 cy. A soil cover would be placed over in-place COC-impacted soil and the cover vegetated with a combination of native and landscape plants and grasses. The constructed cover would be comprised of either wire/geotextile mesh layer covered by approximately 1.5 feet of imported clean fill soil (estimated at 7,000 cy). Areas of existing hardscape such as building foundations, asphalt driving surfaces, or concrete pads and sidewalks would be considered capped. LUCs would be implemented to ensure the integrity of the new cover and the existing cover at the incinerator area, and that the remedy remained protective of human health and the environment. Protocols for cover maintenance and intrusive work within and below the cover would be outlined in a post-remediation O&M plan.

Considering the screening and comparative analysis presented in this RAW, the Trust has identified Alternative 3, Consolidation and Capping with LUCs and Post-Remediation Monitoring, as the selected alternative because it provides the highest level of protection to human health and the environment; meets ARARs; and is compatible with the current and future land use of the Site for residential housing and as Historic Forest.

1.0 INTRODUCTION

This Removal Action Plan (RAW) has been prepared for Lendrum Court (the Site), Presidio of San Francisco, California (Presidio), by TRC on behalf of the Presidio Trust (Trust). This RAW summarizes the processes used to develop and evaluate alternatives to remediate contamination identified at the Site.

Following an evaluation of the remediation alternatives, a description of the proposed removal alternative is presented. In accordance with Department of Toxic Substances Control (DTSC) guidance (DTSC, 1995), a Draft RAW was released for a 30-day public comment period. Following the public comment period, DTSC, in consultation with the Trust, prepared a response to comments received, and this Final RAW was prepared. This Final RAW serves as the decision document for remediation of the Lendrum Court site.

1.1 OBJECTIVES OF THE RAW

Site investigations were performed at the Site in October 2012, June 2013, and September 2014. A Remedial Investigation (RI) report was prepared that summarized the investigations completed at the Site and evaluated site environmental conditions (EKI, 2015).

This RAW has been prepared to provide a summary of information pertinent to understanding the Site setting, background, and environmental conditions and has incorporated Site data presented in the RI into the development and evaluation of potential removal alternatives for the Site. The overall objectives of this RAW are as follows:

- Summarize the evaluation of the nature and extent of contamination presented in the RI, present a conceptual site model (CSM) that includes potential exposure pathways for human and ecological receptors;
- Identify chemicals of concern (COCs) that are present in Site soil at concentrations that pose potential human health and ecological risk or hazard, and based on the presence and concentrations of those COCs, identify areas to be remediated;
- Screen potential removal technologies, and based on removal technologies retained for consideration, develop proposed removal alternatives for the Site that would address potential human health and ecological risks posed by the COCs;
- Evaluate and compare proposed removal alternatives developed for the Site;
- Select a removal alternative for the Site; and
- Describe the removal action implementation components for the selected removal alternative.

1.2 REPORT ORGANIZATION

The remainder of this RAW is organized as follows:

- Section 2: Site Characterization
- Section 3: Removal Action Objectives
- Section 4: Applicable or Relevant and Appropriate Requirements
- Section 5: Identification and Screening of Removal Alternatives
- Section 6: Analysis of Alternatives
- Section 7: Removal Action Implementation
- Section 8: Sampling and Analysis Plan
- Section 9: Transportation Plan
- Section 10: Health and Safety
- Section 11: Public Participation
- Section 12: Land Use Controls
- Section 13: California Environmental Quality Act
- Section 14: References

Appendices of this RAW contain the following:

- Appendix A: Incinerator Area Information
- Appendix B: Data Summary Tables from the Remedial Investigation Report
- Appendix C: Leadspread 8 Model Output
- Appendix D: Remediation and O&M Costs
- Appendix E: Administrative Record List
- Appendix F: Project Controls to Minimize Potential Impacts to Human Health and Resources
- Appendix G: California Environmental Quality Act (CEQA) Documentation
- Appendix H: Green Remediation Evaluation Matrix Tables
- Appendix I: Responsiveness Summary

1.3 PROJECT AND REGULATORY FRAMEWORK

The Presidio is a 1,491-acre former U.S. Army military post that is located at the center of the Golden Gate National Recreation Area (GGNRA [Figure 1]). The GGNRA was created by Congress in 1972. The Presidio became part of the GGNRA in 1994 when the Army transferred land management responsibility to the National Park Service (NPS). In 1996, Congress enacted the Presidio Trust Act (Section 103 of the Omnibus Parks and Public Lands Management Act of 1996, Public Law 104-333, 110 Stat. 4097), creating the Trust and giving the Trust jurisdiction over the 1,168-acre inland area of the Presidio known as Area B. The NPS continues to manage the shoreline area or Area A (Figure 1). The Trust is a wholly owned federal government corporation with the mission to preserve the Presidio in perpetuity for public benefit. Congress gave the Trust authority to lease property and generate revenues to manage the maintenance, rehabilitation, and improvement of Area B. Lendrum Court is located completely within Area B of the Presidio (Figure 1).

Subsequent to the transfer of the Presidio to the NPS and the Trust, the Trust assumed responsibility for remediation of Areas A and B by signing the Memorandum of Agreement Regarding Environmental Remediation at the Presidio of San Francisco (Presidio MOA) among the Trust, U.S. Army, and NPS (U.S. Army, Trust, and NPS, 1999). Per the Presidio MOA, the U.S. Army has retained responsibility for contamination encountered within the Presidio related to unexploded ordnance; nuclear, biological, and chemical weapons or agents; offshore areas; and other unknown contamination as defined in the Presidio MOA. The U.S. Army has acknowledged the Site as an unknown waste release site.

On July 31, 2014, the Trust entered into a voluntary cleanup agreement with DTSC for the Site. Although Lendrum Court is not on the National Priorities List (NPL), this RAW follows the removal selection process under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and includes technology screening, development of alternatives, and evaluation of the alternatives following National Oil and Hazardous Substances Pollution Contingency Plan (NCP) evaluation criteria.

1.4 LENDRUM COURT SITE DESCRIPTION AND SITE USE HISTORY

The Site is located in the northwest corner of the Presidio, north of Doyle Drive, in the North Fort Scott Area (Figure 1). The North Fort Scott neighborhood includes 17 residential buildings containing 42 units, housing approximately 110 residential tenants. Also located nearby is Pilots Row neighborhood which includes 13 buildings and 13 units, housing approximately 36 tenants.

Army-era debris and incinerator ash are present in subsurface soils in the area of Buildings 1257, 1258, 1259, 1278, 1279, 1280, and 1282, which surround Lendrum Court. The area generally slopes to the northeast in a series of terraces, likely graded as building pads for the residential units and parking lot area. The sloping areas between the terraces are generally landscaped with grass and shrubs. The northeastern slope, behind buildings 1259, 1278, and 1279 is designated as Historic Forest, with a thick understory of small statured trees and shrubs.

The landscaped areas surrounding the residential units are maintained by Trust grounds crews. Maintenance activities include mowing grassy lawn areas, clearing concrete and asphalt sidewalks and paths, and trimming shrubs and trees. The trees and understory in the Historic Forest are also maintained by the Trust forestry department, in particular to trim and remove hazardous limbs that pose a risk to nearby structures. There are no roadways or footpaths through the Historic Forest, however, and the area has no features or attractions designed to be accessed by the general public.

A chronology of land development activities in the Site and North Fort Scott areas based on historic maps and photos was prepared by EKI (EKI, 2014d) and is presented in the RI (EKI, 2015).

Pre-1936 the area was generally open space. The historic Pilots Row neighborhood, constructed in 1921, is located north of the future Lendrum Court area. A reservoir was located in the vicinity of Building 1282. A coalhouse was located southeast and an incinerator was located approximately 150 feet south of present day Lendrum Court. Aerial photos indicate fill or grading in the present day locations of Buildings 1278 and 1279.

Between 1936 and 1946, photos show significant soil handling activities for the construction of Highway 101, the original Doyle Drive. Other construction included installation of a heating oil pipeline perpendicular to and beneath Highway 101. The pipeline was part of the Presidio Fuel Distribution System (FDS). This segment of the FDS system was removed by the Army. A closure request was submitted to the Regional Water Quality Control Board (RWQCB) by the Trust on March 2014 (EKI, 2014b) and the segment was closed by the RWQCB on March 13, 2014. The highway was constructed on top of the former incinerator area.

Little to no construction occurred in the area after 1946. The area remained primarily open until the construction of the North Fort Scott residential neighborhood in 1970 and 1971.

1.5 INCINERATOR AREA DESCRIPTION

The available information suggests that the former incinerator located just south of Lendrum Court (see Figure 1) is the source of the debris and ash at the Site. The incinerator operated prior to 1936 when the present day Doyle Drive was constructed. The incinerator area was covered by Doyle Drive during construction in the mid to late 1930s. In January 2015, the area of the former incinerator was uncovered during construction of the Doyle Drive Replacement Project. The incinerator area is located south of Lendrum Court between the connector (referred to as the hook-ramp) of northbound Highway 1 to northbound Highway 101 and Highway 101 (Doyle Drive).

The incinerator area also contained ash and debris. Approximately 1,000 cubic yards (cy) of soil containing ash and debris was excavated and disposed of at a licensed waste disposal facility as part of highway construction. Residual debris and soil containing elevated lead was left in place and capped with new highway pavement or with a soil cap consisting of 2 feet of unrestricted use soil (horticultural soil [Terraphase, 2015b]). Landscape plants will be installed as part of the Doyle Drive Replacement Project and will be maintained by Caltrans and the Trust. Because the existing cover blocks exposure to COCs in contaminated soil, debris, and ash, the cap is considered protective of human health and the environment. The incinerator area is currently inaccessible to the public during the Doyle Drive Replacement Project, and will be completely surrounded by Highway 101 and the connecting ramp from Highway 1 when the Doyle Drive Replacement Project is complete. See Appendix A for additional information regarding the investigation, removal, and capping of in-situ contaminated soils in the incinerator area.

2.0 SITE CHARACTERIZATION

2.1 SUMMARY OF PREVIOUS INVESTIGATIONS

Several phases of site investigation were conducted at the Site in response to tenant complaints of glass fragments in soil surrounding the residential buildings. These phases included completion of a Preliminary Endangerment Assessment (PEA), implementation of temporary measures to minimize potential exposure to Site soils, and completion of Site remedial investigations.

Findings from the PEA Workplan investigation are summarized in the Lendrum Court Investigation Summary Report and Screening Risk Evaluation (EKI, 2014a) (the "PEA Report"). The PEA Report documented the presence of debris fill in subsurface soils and identified lead, polyaromatic hydrocarbons (PAHs), and dioxins and furans as potential chemicals of concern (PCOCs). DTSC approved the PEA Report in a letter dated March 7, 2014 (DTSC, 2014b). In that letter, DTSC stated that further investigation at the Site was required to determine the extent of debris and to evaluate the risks posed by PCOCs.

Additionally, DTSC sent a letter dated January 9, 2014 (DTSC, 2014a) requiring the Trust to develop a plan for implementation of temporary measures to minimize the potential exposure of residents to PCOCs in Site soils. The Trust submitted an implementation plan to DTSC on March 24, 2014 (Trust, 2014) and following DTSC approval, in April and May 2014, implemented the planned measures. The temporary measures included installation of:

- Post and cable fencing around exposed surface soils in the moderately sloped landscape areas to restrict resident access (approximately 1,875 linear feet of fence to limit access to the majority of the exposed surface area);
- Aggregate base walkways in high-traffic areas connecting doors at the front and sides of residences;
- Sand-set paver patios near select buildings; and
- Gopher-resistant mesh and sod in specific informal gathering areas.

The Trust conducted the additional site investigation in two phases. Phase I evaluated if Army- era debris was present in the broader North Fort Scott and Pilots Row neighborhoods. The North Fort Scott and Pilots Row investigation report concluded that debris fill is limited to the Lendrum Court neighborhood (EKI, 2014c). DTSC concurred with these findings in a letter dated July 2014 (DTSC, 2014c). Phase II of the investigation focused on delineation and characterization of the debris in the Site area. The findings of the Phase II investigation are presented in the RI (EKI, 2015).

Following the discovery of the incinerator area in January 2015, the Doyle Drive contractor removed and disposed of an estimated 1,000 cy of soil contaminated with debris and ash. An additional approximately 1,800 cy of soil was stockpiled and the site was graded in accordance with the applicable highway design documents. The remaining in-situ soil and the stockpiles were sampled by the Doyle Drive Contractor and by TRC. The results of the sampling are included in Appendix A.

The in-situ sampling, conducted by Terraphase Engineering (March 25, 2015) indicated lead was present at concentrations ranging from about 6 to 2,600 mg/kg in in-situ soils. The highest concentrations were located in the southern portion of the incinerator area. With the exception of two sample points, the area to the north, closest to Lendrum Court, did not contain elevated lead. Based on these results, the contractor completed additional site grading that spread the 1,800 cy of stockpiled soil across the area and installed a 2-foot cap of clean soil suitable for supporting landscape plants on top.

2.2 GEOLOGY AND HYDROGEOLOGY

According to the Geologic Map of the San Francisco Bay Region, (United States Geological Society [USGS], 2006), Lendrum Court is underlain primarily by alluvial fill material, i.e., Quaternary hillslope deposits, and by serpentinite rock. Quaternary slope debris is also shown as the surficial deposit at the Site on Figure 6-1 of the Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater and Surface Water ("Cleanup Level Document"; EKI, 2002). Based on a cut and fill map prepared by the Trust representing elevation changes from 1871 to 2000 in the Presidio, cuts were made in native material at the Lendrum Court area to accommodate construction of roadways and building pads.

At Lendrum Court, four general layers have been identified in the shallow subsurface. These layers are listed below in stratigraphic order from the ground surface; however, not all layers are present in all locations.

Overburden:

- Found at depths between 0.5 and 2.5 feet below ground surface (bgs).
- Consists of yellow-brown silty sand most likely of the Colma formation.
- Generally does not contain debris, although glass has been found in surface soil, often in the spoils pile by gopher holes (EKI, 2015).

Debris layer:

- Generally first encountered at depths of approximately 0.5 to 2.5 feet bgs below the overburden layer.
- Occasionally visible at the surface especially in the Historic Forest.
- Varies in thickness from 3 inches to 5 feet.
- Consists of a brown silty sand.
- Contains abundant glass fragments, melted glass, bottles, ceramics, and terracotta, as well as lesser quantities of brick, charcoal, wire, metal, small animal bones, and burned wood (EKI, 2015).

Bottom layer:

- Consists of a yellow-brown to brown silty sand with no debris.
- Most likely represents Quaternary hillslope deposits as identified on the USGS map (USGS, 2006).
- Could be in-place hillslope deposits or re-worked material.

Bedrock:

- Consists of a weathered serpentinite with an outcrop southeast of Building 1258 adjacent to Armistead Road.

Groundwater and surface water have not been encountered during the previously described site investigation activities. Although the exact depth to groundwater at the site is unknown, data from several piezometers installed as part of the nearby Doyle Drive construction project suggest it is in excess of 10 feet bgs. The depth to water in the Doyle Drive piezometers ranged from 10 to 60 feet bgs. In addition, four borings were drilled to a depth of 20 feet bgs to facilitate pier installation for Highway 101 (Abutment 7) just east of the incinerator area. Groundwater was not encountered in these borings (e-mail correspondence from David Yam of Caltrans, 4/14/15, see Appendix A). The

former Battery Howe/Wagner remediation site is located further to the south of Lendrum Court and Doyle Drive. The site geology is similar however to the Lendrum Court area. There are seven former groundwater monitoring wells in the Battery Howe/Wagner area. Depths to groundwater in these wells ranged from 10 to 27 feet bgs. The Battery Howe/Wagner wells and the Doyle Drive piezometers are located within the Marina Groundwater Basin which includes Lendrum Court. Shallow groundwater in this basin primarily occurs within fractured bedrock.

2.3 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of contamination at the Site was evaluated in the Lendrum Court Investigation Summary Report and Screening Risk Evaluation (EKI, 2014a) (the "PEA Report"), the Lendrum Court Investigation Summary Report and Screening Risk Evaluation (EKI, 2015) and the Hook Ramp Drainage Swale Sample Results, Doyle Drive Project, San Francisco, California (Terraphase Engineering, March 2015).

2.3.1 Description and Extent of Debris

The lateral extent of Army-era debris is shown on Figure 2. The debris layer, where present, is first encountered at depths of approximately 0.5 to 2.5 feet beneath overburden soil in the central part of Lendrum Court and is exposed at the ground surface in the area of the Historic Forest east of Building 1278. The debris thickness varies from approximately 3 inches to 5 feet (EKI, 2014a). The lateral and vertical extent varies with topography. The debris layer contains glass and ceramic fragments, and in places, ash.

Army-era debris is bounded to the:

- South by Doyle Drive;
- Southwest by Buildings 1257 and 1258;
- West by the footpath adjacent to Building 1257;
- Northwest by the sidewalk/foot path to the east of Building 1282, the sidewalk south of the entrance to Building 1280, and the footpath between Buildings 1279 and 1280; and
- North by the approximate break in slope behind Buildings 1279, 1278, and 1259.

There are no known or suspected impacts to surface water or groundwater from soil COCs. This is because the COCs at the Site are generally not soluble and would not leach and migrate to the groundwater, and because groundwater generally occurs at depth.

2.3.2 Summary of Analytical Results

A detailed summary of the analytical results from the June 2013 and September 2014 Site investigations at Lendrum Court is presented in the RI (EKI, 2015). Data summary tables from the RI are provided in Appendix B. Data from investigations of the incinerator area are included in Appendix A.

2.4 IDENTIFICATION OF COCS

In the RI, chemicals detected in soil were identified as COCs based on comparison of the calculated exposure point concentrations (EPCs) to conservative RI screening levels (EKI, 2015). The screening levels used in the RI were the most stringent of the Presidio-wide ecological buffer zone and residential soil screening levels (SSLs) from the Cleanup Level Document (EKI, 2002 updated through 2013) for the debris fill area and the Presidio-wide ecologic special-status species and residential SSLs from the Cleanup Level Document (EKI, 2002 updated through 2013) for areas outside the debris-fill in the Lendrum Court area. In the incinerator area, chemicals identified as COCs were compared to the Presidio-wide human health commercial/industrial and ecological buffer zone SSLs. The following compounds are identified as COCs in soil at the Site:

- Debris Fill Area (Lendrum Court and Incinerator areas)
    - Metals – arsenic, barium, copper, lead and zinc;
    - PAHs – benzo(a)pyrene, benzo(a)pyrene equivalents and dibenzo(a,h)anthracene;
    - Dioxins/Furans – TCDD TEQ.
- Outside Debris Fill Area (Lendrum Court Area)
    - Metals – lead; and
    - Dioxins/Furans - TCDD TEQ.

Dioxins and furans are conservatively retained as COCs, outside of the debris fill at Lendrum Court since they were not sampled for as part of the RI.

3.0 REMOVAL ACTION OBJECTIVES

CERCLA requires that removal measures be protective of human health and the environment. CERCLA guidance also states that removal action objectives (RAOs) for protection of human receptors should include criteria for COC concentration levels and exposure routes. RAOs have been developed for the Site based on current and planned future land use. The following sections describe current and planned future land uses, specify cleanup objectives, and identify RAOs for Lendrum Court.

3.1 PLANNED LAND USE

The Site is located within Area B of the Presidio; and is therefore subject to land uses identified in the Presidio Trust Management Plan ([PTMP], 2002). Figure 3 shows the planned land use of the Site. The residential portion of the Site is landscaped and the Historic Forest area is treated as ecologic habitat. The debris fill area includes the landscape/residential area, the Historic Forest which is considered recreational area, and the incinerator area. Current and planned land use at the Site is residential with the preservation of the Historic Forest and maintenance of the incinerator area as a drainage swale and highway.

3.2 PRESIDIO-WIDE CLEANUP LEVEL OBJECTIVES

In the Cleanup Level Document (EKI, 2002, with updates through 2013), the Trust developed preliminary remediation goals (PRGs) based on protection of human health and ecological receptors for chemicals detected in various media at the Presidio. Human health PRGs for soil were developed for residential, recreational, and commercial/industrial receptors. These PRGs were set at the lower of two calculated values: the concentration associated with a target cancer risk level of 10-6 and the concentration associated with a target non-cancer hazard index of one or unity. Ecological PRGs were also developed for two separate habitat areas 1) ecological special-status species zone – corresponding to areas that are currently or planned to be native species habitat or Historic Forest, and 2) ecological buffer zone – corresponding to landscaped areas. The Cleanup Level Document also provides metals background threshold levels for four of the common soil types occurring at the Presidio (serpentinite, Beach Dune Sand, Colma Formation, and chert/shale).

The Cleanup Level Document outlines procedures to identify which specific PRGs are applicable to a given contaminant release site. The procedure includes selecting site-specific cleanup levels based on site-specific considerations including future site land use.

Since 2002, the Trust has issued several updates to the Cleanup Level Document in response to identification of new PCOCs, changes in regulatory levels, and updated guidance regarding calculation of risk. These updates are included in the updated Cleanup Level Document (EKI, 2002, with updates through 2013) and are summarized below:

- MACTEC's March 28, 2007 Technical Memorandum, Human Health Soil Preliminary Remediation Goals and Toxic Equivalency Values for Dioxins and Furans, Presidio of San Francisco, California. Soil PRGs were developed for residential, recreational, and commercial/industrial receptors for TCDD using the approach and assumptions from the Cleanup Level Document (EKI, 2002, with updates through 2013).
- Office of Environmental Health Hazard Assessment's (OEHHA) September 2009 Revised California Human Health Screening Levels for Lead. OEHHA revised the lead SSLs for residential and commercial/industrial worker receptors using a 1 microgram per deciliter (µg/dL) benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses. DTSC's LeadSpread Model and United States Environmental Protection Agency (U.S. EPA's) adult lead model were used with default assumptions for residential and commercial/industrial worker receptors.
- AMEC's September 26, 2011 Technical Memorandum and Request for Approval Updated Human Health Preliminary Remediation Goals for Carcinogenic Polynuclear Aromatic Hydrocarbons in Soil, Presidio of San Francisco, California. Soil PRGs for carcinogenic PAHs were updated based on current federal and state cancer slope factors for benzo(a)pyrene.
- AMEC's January 8, 2013 Development of Zinc Background Levels for Colma Formation and Mixed Dune and Colma Formation Soils, Presidio of San Francisco, California. Zinc background levels were developed for Colma Formation and soils representing a mixture of Colma Formation and Beach Dune sand.

Additional guidance and updates specific to the Site include:

- Benzo(a)pyrene Ambient Value. In an August 25, 2010 letter to the Trust, DTSC directed the Trust to evaluate benzo(a)pyrene using benzo(a)pyrene equivalent ambient concentrations ranging from 0.92 mg/kg (95th percentile) to 1.5 mg/kg (upper tolerance limit [UTL]; 95% coverage, 95% confidence) as presented in the Background Levels of Polycyclic Aromatic Hydrocarbons in Northern California Surface Soil (ENVIRON et al., 2002).
- TCDD TEQ Background Concentration. In the August 25, 2010 letter to the Trust, DTSC also directed the Trust to evaluate dioxins and furans using the California urban background range of 7 pg/g to 20 pg/g as presented in the California Department of Food and Agriculture (CDFA) Evaluation of Heavy Metals and Dioxin in Inorganic Commercial Fertilizers (CDFA, 2004).
- Recreational Lead Soil Cleanup Levels. The recreational cleanup levels for lead were developed using the DTSC LeadSpread 8 model published in 2011 and exposure assumptions included in the 2002 cleanup level document. The days per week were the only value adjusted in the model to represent a recreational child receptor, which assumes 150 days per year for 50 weeks (EKI, 2002 with updates through 2013). Other values are default DTSC factors from LeadSpread 8, which are consistent with the Cleanup Level Document (EKI, 2002, with updates through 2013). The recreational lead cleanup level is 180 mg/kg. The lead evaluation is provided in Appendix C.

3.3 LENDRUM COURT AND INCINERATOR AREA POTENTIAL EXPOSURE PATHWAYS AND CLEANUP LEVELS

3.3.1 Potential Exposure Pathways

Metals, PAHs, and dioxin/furans have been detected at Lendrum Court and lead has been detected in the Incinerator Area at concentrations above Presidio-wide SSLs protective of human health and ecological receptors. The debris and ash layers appear to be the primary source of COCs detected in the soil. COCs may be transported: 1) as particulates in the air; 2) as suspended solids in stormwater passing through the soil, as downslope as sheet wash; and 3) by gravity transport of the debris fragments with depth in the soil profile, as well as downslope movement.

The current and planned land use at Lendrum Court is residential, and potential human exposure is evaluated as such. In the Historic Forest, located northeast and east of the residences, the potential human exposure is recreational. The Historic Forest is considered ecological special-status area, but the Site residential area, because it is landscaped, is evaluated as an ecological buffer zone. The Incinerator Area has been capped and will be landscaped during the Doyle Drive replacement project. The area is not accessible to the public. The only potential exposure pathway for this area would be to a commercial/industrial worker tasked with maintaining the highway and associated landscape.

The Trust's lease agreements with tenants prohibit tenants from planting and landscaping activities in order to protect potential historic resources that may be present and prevent introduction of undesired plant species. Although these requirements reduce the potential for human exposure to COCs in soil, it is assumed that chemicals present in soil may be absorbed through the following direct exposure pathways:

- Residential receptor – direct contact with soil from living and playing at the site:
  - Inadvertent soil ingestion;
  - Dermal contact with soil (e.g., digging and playing);
- Recreational receptor – direct contact with soil while walking in the Historic Forest:
  - Inadvertent soil ingestion; and
  - Dermal contact with soil (e.g., digging and playing).
- Commercial/Industrial receptor – direct contact with soil while working in the area:
  - Inadvertent soil ingestion, and
  - Dermal contact with soil (e.g., digging).

These pathways are considered complete and therefore quantitatively evaluated in the selection of cleanup levels. Inhalation of volatile contaminants on soil particulates is not considered to be a significant exposure pathway because it accounts for only 1 to 3 percent of total exposure to contaminants (EKI, 2002 updated through 2013). Due to the low mobility of the COCs in soil, it is not anticipated that COCs would migrate (leach) to groundwater where they would have the potential to be ingested in drinking water. Therefore, groundwater is not considered a complete exposure pathway in this evaluation. The potential exposure pathways for human health are illustrated in the CSM on Figure 4.

Ecological receptors at the Site include plants, soil invertebrates, insectivorous birds, herbivorous birds and mammals, carnivorous birds and mammals, and omnivorous mammals. Chemicals present in soil may be absorbed through the following direct exposure pathways:

- Plants – dermal contact with soil;
- Soil invertebrates – dermal contact with soil, ingestion of plant and animal tissue and soil ingestion;
- Birds:
  - Insectivorous and Carnivorous – dermal contact with soil, ingestion of animal tissue and soil ingestion;
  - Herbivorous – dermal contact with soil, ingestion of plant tissue and soil ingestion;
- Mammals:
  - Omnivorous – dermal contact with soil, ingestion of plant and animal tissue and soil ingestion;
  - Herbivorous – dermal contact with soil, ingestion of plant tissue and soil ingestion; and
  - Carnivorous – dermal contact with soil, ingestion of animal tissue and soil ingestion.

These pathways are considered complete and therefore quantitatively evaluated in the selection of cleanup levels. Inhalation of volatile contaminants on soil particulates is not considered to be a

significant exposure pathway because it accounts for only 1 percent of total exposure to contaminants (EKI, 2002 updated through 2013). The potential exposure pathways for terrestrial habitats are illustrated in the CSM on Figure 5.

3.3.2 Cleanup Levels

The following cleanup levels are adopted for COCs in soil at Lendrum Court and the Incinerator Area based on current and future land use and the SSLs from the 2002 CUL document:

- Protection of Human Health
    - Residential/Landscaped Area – Residential cleanup levels: As shown in Appendix B, Table 6A, arsenic, lead, benzo(a)pyrene, benzo(a)pyrene equivalents, dibenzo(a)anthracene, and dioxins/furans are present at concentrations that pose a risk to human health in the residential/landscaped area.
    - Historic Forest – Recreational cleanup levels: As shown in Appendix B, Table 6B, lead is present at concentrations that pose a risk to human health in the recreational area/Historic Forest, and dioxins/furans pose an unknown risk.
    - Incinerator Area – Commercial/Industrial cleanup levels: As shown in Appendix A, Table 1 of Terraphase's March 25, 2015 memo, lead is present at concentrations that pose a risk to human health in the Incinerator Area, and dioxins/furans are below the cleanup level for commercial/industrial workers but above residential cleanup levels.
- Protection of Ecological Receptors
    - Buffer Zone: As shown in Appendix B, Table 6A, barium, copper, lead and zinc present a potential risk to ecological buffer zone receptors in the residential/landscaped area of Lendrum Court. Dioxins/furans pose an unknown risk in Lendrum Court. As shown in Appendix A, Table 1 of Terraphase's March 25, 2015 memo, lead poses a potential risk to ecological buffer zone receptors and dioxins/furans pose an unknown risk.
    - Special-Status: As shown in Appendix B, Table 6B, lead is present at a potential risk to ecological special-status in the recreational area/Historic Forest. Dioxins/furans pose an unknown risk.
- Soil Lithology – Serpentinite Soil and Colma Formation: Serpentinite and Colma Formation background threshold levels are used to evaluate the Site soil metal concentrations because soils in the overburden fill appear consistent with the Colma Formation and serpentinite rock is present in the subsurface and outcrops adjacent to Armistead Road.

The Site cleanup levels for the COCs are presented in Table 1. Three cleanup levels are listed in Table 1: 1) one applicable to the landscaped area that is within the residential and ecological buffer zone, and 2) the other applicable to the Historic Forest that is within the recreational and ecological special-status zone. The cleanup level is the lower of the applicable human health and ecological cleanup levels. However, for metals, if the applicable human health and ecological cleanup levels are

less than the background level, the greater of the two background threshold levels was selected as the cleanup level.

3.4 REMOVAL ACTION OBJECTIVES

Considering the current and planned future land use and the Presidio-Wide Cleanup Levels Document, the RAOs for Lendrum Court are:

- Protection of human health and the environment consistent with the intended future land use: As required by CERCLA, the removal alternatives considered must be protective of human health and the environment. Protection of human health and the environment can be met in several ways, including cleanup of COCs to meet the applicable Site cleanup levels or using land use and engineering controls to prevent exposure to COCs.
- Cost-effective cleanup of the site: Cost-effectiveness is an objective addressed by identifying removal alternatives that meet all removal objectives for the least cost. In practice, not all removal alternatives meet all removal objectives equally; therefore, the most cost-effective alternative is not necessarily the least cost alternative.
- Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Removal alternatives are evaluated for their ability to meet chemical-, location-, and action-specific requirements that include specific regulations or advisories applicable to the Presidio.

4.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

In accordance with Section 121(d)(1) of CERCLA (42 USC Section 9621[d]), removal actions performed under CERCLA must achieve a level of cleanup and control of hazardous substances, pollutants, or contaminants that assures protection of human health and the environment. Additionally, removal actions that propose to leave hazardous substances onsite must meet the substantive requirements of federal environmental laws or more stringent state environmental and facility siting laws, referred to as ARARs.

ARARs fall into three general categories: chemical-specific, action-specific, and location-specific, as follows:

- Chemical-specific ARARs are health-based or risk-based concentration limits that are established for a specific chemical in a specific medium (typically groundwater, soil, surface water, or air). Chemical-specific ARARs represent the acceptable amount or concentration of a chemical that may be found in, or discharged to, the ambient environment. These criteria have been developed to protect potential receptors from adverse health effects from hazardous substances.
- Action-specific ARARs are activity- or technology-based requirements that establish how to perform a specific action. These ARARs either restrict or direct specific types of remedial or waste management activities.

- Location-specific ARARs are requirements that either restrict or direct certain activities, based solely on their location.

Chemical-specific ARARs are the primary criteria used to establish cleanup levels, while action and location-specific ARARs are used to identify and evaluate removal action alternatives.

ARARs can be further categorized as either federal or state ARARs. State regulations are ARARs only if they are more stringent than federal requirements. In addition to promulgated laws and regulations, federal, state, and local agencies develop various guidance documents, criteria, and advisories, e.g., to be considered (TBC) requirements that can provide useful information or procedures. There may also be local permitting requirements and ordinances that need to be complied with when performing removal actions.

ARARs and TBCs for the Site are presented in Table 2.

5.0 IDENTIFICATION AND SCREENING OF REMOVAL ACTION ALTERNATIVES

The goal of the removal selection process under CERCLA is to develop and select removal alternatives that protect human health and the environment, maintain protection over time, and minimize untreated waste (USEPA 40 CFR 300.430[a][1][I]). Identifying and screening potential suitable technologies is the first step in the process of developing removal alternatives. Technologies that pass the screening process are then retained and used to develop removal alternatives.

Screening of removal alternatives consisted of evaluating each alternative according to three criteria and assigning a relative ranking to each alternative based on the evaluation. The three criteria consist of the following:

- Effectiveness: Effectiveness is the degree to which an alternative meets RAOs. More specifically, the alternative's effectiveness at providing long-term and short-term protection of human health and the environment, minimizing residual risk, providing adequate and reliable controls for long-term management, complying with ARARs, and achieving protection of human health and the environment in the most efficient manner possible.
- Implementability: Implementability is the technical, practical, and administrative feasibility of applying an alternative. For example, alternatives that require equipment, specialists, or facilities that are unavailable may not be implementable and would be eliminated from further consideration.
- Cost: Costs of construction, long-term monitoring, and maintenance are considered. Costs are assigned based on a conceptual level of design and assumptions for unknown conditions are applied consistently among all alternatives. A component of the cost evaluation is to ascertain the level of effectiveness and implementability for the cost expended. Alternatives providing equal or less effectiveness and implementability for a greater cost

than another alternative that provides equal or greater effectiveness may be eliminated from further consideration.

5.1 TECHNOLOGY SCREENING

The Site is considered to contain chemicals and incinerator debris that represent a low-level threat to human health and the environment. The ash and debris material and impacted soil at the Site can be reliably contained. At the Site, the COCs are lead, arsenic, PAHs, and dioxins/furans associated with the incinerator debris that generally exhibit limited mobility in the environment. The USEPA has established presumptive remedies that apply to sites with low-level threat wastes. Presumptive remedies were developed to streamline the remedy selection process by narrowing the universe of technologies and alternatives that must be considered. In addition, the use of presumptive remedies is expected to promote consistency within diverse communities and responsible parties.

The removal technologies that are considered include:

- Excavation, removal, and offsite disposal of wastes;
- Consolidation and capping, with Land Use Controls (LUCs) and post-remediation monitoring.

5.2 DEVELOPMENT OF REMOVAL ALTERNATIVES

The Site is currently and is planned to be used as a residential area with designed landscape and preservation of Historic Forest areas. Considering this planned land use, removal alternatives were developed from the retained technologies with the goal of achieving site RAOs.

A description of the following removal alternatives developed for evaluation is presented below, and summarized in Table 3:

- Alternative 1 - No action;
- Alternative 2 - Excavation; and
- Alternative 3 - Consolidation and capping, with LUCs and post-remediation monitoring.

5.2.1 Alternative 1 - No Action

No remediation measures would be implemented under this alternative. As required by the NCP 40 CFR 300.420(e)(6), this alternative is retained for analysis as a baseline for comparison with other alternatives.

5.2.2 Alternative 2 – Excavation

This alternative consists of excavation, characterization, transportation, and offsite disposal of Army-era debris and incinerator ash and related lead- and PAH-impacted soil at a licensed landfill facility. The estimated volume of soil that would be excavated and transported from the Site (based on estimated extent of soil containing COCs at concentrations above Site cleanup levels) is approximately 22,500 cy. Figure 6 shows the area that would be subject to excavation under

Alternative 2. To access the subsurface impacted soil for excavation, asphalt parking and roadways would have to be demolished and removed. Existing residences would have to be shored and/or removed to access underlying waste debris and ash. Additionally, trees and understory vegetation from the Historic Forest would need to be removed. The Site would be backfilled with imported soil as necessary to stabilize slopes and restore grades. The import fill material would be sampled for hazardous chemicals at a frequency and submitted for an analytical suite consistent with DTSC guidance (DTSC, 2001).

5.2.3 Alternative 3 – Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring

This alternative would combine multiple technologies including removal/consolidation of Army-era debris and incinerator ash from the shallow sub-surface, placement of a soil cover layer, implementation of LUCs, and implementation of a post-remediation O&M plan to monitor the capped portions of the Site. In the incinerator area, the existing 2-foot thick soil cap would be maintained. In the Lendrum Court area, a new cap would be installed. Figure 7 shows the approximate areas that would be subject to removal/consolidation, cover, and LUCs (based on the estimated extent of soil containing COCs at concentrations above Site cleanup levels). Contaminated material that cannot be consolidated within the capped area limits would be excavated, characterized, and transported for offsite disposal at a licensed landfill facility. Confirmation samples would be collected from areas not capped to confirm COCs were not present above Site cleanup levels.

The volume of soil that cannot be consolidated is estimated at approximately 1,500 cy and includes the organic-rich upper 4 to 6 inches of soil. A cap would be placed over in-place COC-impacted soil. In the landscaped area, the cap would include both hardscape and soil. Hardscape areas include asphalt roadways and paths, decomposed granite (DG) footpaths, and concrete sidewalks and patios. In vegetated areas, a soil cap consisting of a wire/geotextile mesh layer that serves as a visible marker of the top of the contaminated layer and as a gopher barrier, with approximately 1.5 feet of clean soil, would be constructed. The soil cap would be placed over in-place and consolidated waste debris and soil. The soil cap would be vegetated with a mix of native and landscape plants in accordance with the PTMP.

In the Historic Forest area, the constructed cap will consist of a geotextile grid topped with 6 inches to 1.5 feet of soil. Rock or similar material would be placed around the trees to protect the root structure, allow air exchange and promote water infiltration.

LUCs would be a component of the alternative to preserve the integrity of the cover and provide protocols for future maintenance work within the capped area. Protocols for cap maintenance and intrusive work within and below the cap would be outlined in a post-remediation O&M plan.

6.0 ANALYSIS OF ALTERNATIVES

This section presents an analysis of the removal alternatives for the Site. The analysis consists of an assessment of individual alternatives against each of nine NCP evaluation criteria provided by the

USEPA, and a comparative analysis that focuses upon the relative performance of each alternative against those criteria (USEPA, 1988). The criteria include two threshold criteria, five balancing criteria, and two modifying criteria. Balancing criteria are used to identify the preferred alternatives from those that meet the threshold criteria. Modifying criteria further shape the preferred alternatives by taking into account the concerns of state agencies and the public. Additional criteria provided by the state of California that were also considered for the Site are presented after the NCP criteria.

6.1 EVALUATION CRITERIA

The nine NCP evaluation criteria are presented below.

6.1.1 Threshold Criteria

1. Compliance with ARARs. This criterion addresses whether or not a remedy meets applicable or relevant and appropriate Federal, State, and local environmental laws and regulations identified in Table 2 for the Site.

2. Overall Protection of Human Health and the Environment. This criterion addresses whether or not a remedy provides adequate protection and describes how risks posed through potential exposure pathways are eliminated, reduced, or controlled through treatment, engineering controls, or LUCs.

6.1.2 Balancing Criteria

3. Long-term effectiveness and permanence. This criterion considers the ability of a remedy to provide reliable protection of human health and the environment over time after cleanup levels have been achieved.

4. Reduction of toxicity, mobility, or volume through treatment. This criterion reflects the bias for treatment of contaminants by evaluating the anticipated performance of the alternative with respect to the reduction of toxicity, mobility, and volume (TMV) of contaminants.

5. Short-term effectiveness. This criterion evaluates the period of time needed to complete the remedy, and any negative impact on human health and the environment that may be posed during remedy construction and implementation, until cleanup standards are achieved.

6. Implementability. This criterion refers to the practical, technical, and administrative feasibility of implementation of a remedy, including the availability of materials and services needed to implement an alternative.

7. Cost. Evaluates the capital and O&M costs of each alternative, based on a conceptual level of design detail. Typically, preliminary cost estimates of this type for a RAW are considered accurate within a range that may vary as much as 30 percent less to 50 percent more than the estimated cost. Some of the reasons for this range are the relatively basic level of design detail at the RAW stage, variability of construction materials, variability in construction costs over time, the complexity of developing site-specific design factors, and the sensitivity of construction costs to economic factors such as interest rates, inflation, and materials costs.

6.1.3 Modifying Criteria

8. State acceptance. This criterion indicates whether, based on its review of the information, the applicable state regulatory agencies agree with the preferred alternative. DTSC acceptance will be evaluated during the comment period on the Draft RAW.

9. Community acceptance. This criterion assesses whether community concerns have been addressed by the removal action and whether the community has a removal action preference. Community acceptance was evaluated during the public comment period for the Draft RAW. The responsiveness summary (Appendix I) presents and responds to public comments on the Draft RAW. Based on the results of the public review and comment period, the public supports the remedial alternative proposed in the Draft RAW.

6.1.4 Additional State Criteria

Additional criteria provided by the state of California also considered in this evaluation include the California Health and Safety Code (HSC) Section 25356.1, which requires that alternatives be evaluated relative to the following six criteria:

- Health and safety risks posed by site conditions.
- The effect of COCs present on probable present and future uses of contaminated or threatened resources.
- The effect on available groundwater resources for present, future, and probable beneficial uses. Treatment that reduces the TMV of contaminants as opposed to alternatives that use offsite transport and disposal are preferred.
- Site-specific conditions (potential for offsite migration) and existing contaminant background levels.
- Cost-effectiveness, considering the short-term and long-term costs of the removal action and whether deferral of a removal action could result in a cost increase or hazard increase to human health or the environment.

- The potential environmental impacts of the removal alternative such as land disposal of contaminated material versus treatment to remove or reduce its TMV prior to disposal.

Because the six HSC criteria are similar to and covered under the nine NCP criteria, the detailed analysis presented in this RAW consider the NCP and HSC criteria collectively.

In addition to California's HSC criteria, the DTSC has issued an Interim Advisory for Green Remediation (DTSC, 2009) to provide guidance on how sustainability and green remediation concepts can be incorporated into cleanup project elements, including treatment alternative selection and remedial design. The advisory presents a simple tool called the Green Remediation Evaluation Matrix (GREM) that can be used to perform qualitative comparisons of treatment alternatives.

As part of the alternative evaluation process, a GREM was prepared for each alternative considered in this RAW; the GREMs are presented in Appendix H. The GREM analyses are presented primarily to show the relative impact to environmental stressors associated with implementation of each alternative, rather than for decision-making purposes. Based on DTSC guidance, the GREMs are not intended as primary evaluation criteria (threshold or balancing criteria), but are presented as additional criteria that may be considered. For example, the GREM may be considered to be a component of the Modifying Criteria for state acceptance, because the DTSC may be more likely to accept a "greener" removal alternative.

For the selected removal alternative, the GREM will be further considered during the future removal design to identify and potentially mitigate impacts to environmental stressors. The GREM presented in Appendix H focus on environmental impacts during remedial construction.

A summary of the GREM analyses are further discussed under Modifying Criteria in the evaluation of alternatives provided in the following sections.

6.2 DISCUSSION OF ALTERNATIVES

This section discusses the removal alternatives for the Site based on their ability to meet the threshold criteria, balancing criteria, and modifying criteria. Table 4 presents the comparative analysis for the alternatives based on each of the evaluation criteria. Details regarding the cost estimate of each alternative are presented in Appendix D. Appendix D also presents conceptual construction schedules that were developed to provide estimates of construction duration for the cost estimates.

6.2.1 Threshold Criteria

Alternative 1 - No Action

This alternative does not comply with ARARs and is not protective of human health and the environment. Metals, PAHs, and dioxins/furans are present in shallow soil at levels that pose potential risk to residential users. Additionally, there are metals at concentrations that exceed levels protective of sensitive ecological receptors. Accordingly, the No Action alternative would not achieve RAOs.

Alternative 2 - Excavation

This alternative complies with ARARs and is protective of human health and the environment, but is not consistent with current and planned future land use. Residential buildings would have to be shored or removed and the trees in the Historic Forest would be removed to implement the alternative, although residential buildings could be rebuilt and the forest replanted. Removal of Army-era debris and ash and COC-impacted soil from the Site provides the highest level of overall protection to human health and the environment because the debris, ash and soil containing COCs above applicable human health and ecological cleanup levels would be excavated and removed from the Site. This alternative meets RAOs and is effective in the long term, but would result in both short and long-term impacts during and post implementation, respectively.

Alternative 3 - Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring

This alternative complies with ARARs and is protective of human health and the environment. Consolidation and capping of debris and contaminated soil in select areas provides a high level of protection to human health and the environment through placement of a physical barrier that separates potential human and ecological receptors from the remaining debris and COC-impacted soil. This alternative is compatible with the Trust's current and intended land uses. The alternative incorporates LUCs and long-term monitoring and maintenance of the cover system, so it continues to perform as designed and meets RAOs. The LUC will document the nature of contamination managed in place and detail future site use restrictions and requirements when activities potentially disturbing the cover are implemented. The regulatory mechanism for implementing LUCs is further described in Section 12. This alternative is effective in the long term providing that the cover is maintained, but could result in some short-term impacts during implementation.

Threshold Criteria Comparison

All of the alternatives provide protection of human health and the environment with the exception of Alternative 1 (No Action). Alternative 1 does not comply with ARARs. Alternatives 2 and 3 would meet most ARAR criteria.

6.2.2 Balancing Criteria

Alternative 1 - No Action

This alternative would not prevent long-term exposure to COCs in soil and debris. This alternative would not result in a reduction of TMV of contaminants at the site. This alternative would not prevent short-term exposure to site contaminants. No implementation is necessary under this alternative and there is no cost associated with this alternative.

Alternative 2 – Excavation

This alternative would prevent long-term exposure to COCs in soil and debris. This alternative would not provide for the direct reduction of TMV of contaminants through treatment, but the contaminated soil and debris would be removed from the Site and transferred to an offsite facility that is designed

to control and contain the waste generated by excavation. This alternative would be effective in the short term, and would not require long-term O&M to maintain its effectiveness.

This alternative would be difficult to implement due to the presence of debris and COC-impacted soil beneath the buildings and in the Historic Forest. The buildings would either have to be shored during excavation, or removed entirely. Trees in the Historic Forest would have to be removed to completely excavate debris and COC-impacted soil. There is limited access to the Site and the volume of material to be excavated would result in a large number of trucks to haul the excavated soil and debris offsite as well as equipment to excavate and transport soil to staging areas prior to offsite transport. In addition, excavation of the entire Site would significantly impact residents at the Site. Short-term impacts would occur during implementation. Construction controls and monitoring for dust and other emissions would be required during excavation activities. There would also be traffic impacts due to the large number of trucks required to transport impacted soil and debris offsite. Short-term impacts would occur over one construction season. Implementation of this technology would result in disturbances including traffic, noise, dust, and increased risk of traffic-related death or injury from the trucks transporting and disposing of the excavated soil. Long-term impacts due to the loss of Historic Forest, and potentially housing, would also occur. The estimated cost of $8.31 million associated with this alternative is much higher than Alternative 3. The cost estimate is presented in Table D-1 of Appendix D.

Alternative 3 – Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring

This alternative would prevent long-term exposure to COCs in soil and debris. This alternative would not provide for the direct reduction of TMV of contaminants through treatment, but the COC-impacted soil and debris would be contained beneath the cover. This alternative would be effective in the short term, and would require long-term O&M to maintain its effectiveness. In the Historic Forest area, it can be expected that there will be some erosion of cover material that will require replacement. This alternative would be moderately difficult to implement as it requires placement of cover adjacent to residential apartments, there is limited access, and the volume of import soil to be placed as cover would result in trucks accessing the Site and adjacent staging areas.

As available, local sources of soil will be used. There will be short-term impacts during implementation. Construction controls and monitoring for dust and other emissions would be required during grading, and cap placement. There would also be traffic impacts due to the number of trucks required to haul import soil and other construction materials to the Site. Short-term impacts would occur over the construction season. Implementation of this alternative would result in disturbances including traffic, noise, dust, and increased risk of traffic-related death or injury from the trucks transporting import material. The total estimated cost of $1.96 million associated with this alternative is lower than Alternative 2. The cost estimate is presented in Tables D-2 (Phase 1) and D-3 (Phase 2) of Appendix D.

Balancing Criteria Comparison

Alternative 2 provides the highest degree of long-term effectiveness and permanence but is not consistent with current land uses. Alternative 3 also provides long-term effectiveness as long as the

cover is maintained following remedial construction. Alternative 3 is consistent with current and planned land uses.

For Alternatives 2 and 3 to be effective in the short term, construction controls for dust, traffic, and air emissions would need to be implemented. Alternative 2 provides the highest degree of short-term effectiveness as excavation of soil and debris containing COCs above cleanup levels could be completed within a relatively short time period. However, the buildings would either have to be shored or completely removed to excavate the debris to obtain a clean closure. Alternative 3 has a lesser degree of short-term effectiveness (COC-impacted soil would be left in place and capped), and can be completed within one construction season.

Alternative 3 is similar to Alternative 2 with respect to implementability. Although Alternative 2 requires more soil excavation, there will be construction and maintenance issues related to placement and maintenance of cover material in the residential area.

Cost estimates associated with implementation of each of the alternatives are presented in Appendix D. The estimated costs to implement are $8.31 million for Alternative 2, and $1.96 million for Alternative 3. Alternative 2 has the highest overall cost due to the large expense of excavation and offsite disposal of all debris and impacted soil. There would be no long-term O&M costs for Alternative 2. Alternative 3 would have long-term O&M costs for inspections and basic site maintenance, erosion repairs, and re-vegetation. O&M is estimated at $492,710 for a 30-year period. The costs are presented in Table D-4 of Appendix D. Short-term post-construction erosion monitoring would be performed during the first year under Alternative 3, and repairs would be made as needed at an anticipated low cost.

6.2.3 Modifying and Additional Criteria

Alternative 1 - No Action

The GREM Analysis for this alternative is presented in Table H-1 of Appendix H. This alternative would meet most of the objectives of DTSC's Green Remediation program due to the lack of substance release, physical disturbance, and resource depletion. However, because this alternative takes no action to address potential risks to human health and the environment, it was not favored by regulatory agencies or the community. Community and state acceptance was evaluated during the public comment period. A Responsiveness Summary that presents and responds to comments on the Draft RAW is included as Appendix I to the final RAW.

Alternative 2 - Excavation

The GREM Analysis for this alternative is presented in Table H-2 of Appendix H. This alternative would not meet all of the objectives of DTSC's Green Remediation program due to emissions from dust during construction, diesel particulate matter (DPM) and other greenhouse gasses from vehicle exhaust, fossil fuel use, noise and traffic from haul trucks and construction equipment. This alternative would have significantly more truck traffic to haul material offsite. Community and state acceptance was evaluated during the public comment period. A Responsiveness Summary that presents and responds to comments on the Draft RAW is included as Appendix I to the final RAW.

Alternative 3 – Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring

The GREM Analysis for this alternative is presented in Table H-3 of Appendix H. This alternative would not meet all of the objectives of DTSC's Green Remediation program due to emissions from dust during construction, DPM and other greenhouse gasses from vehicle exhaust, fossil fuel use from haul trucks and construction equipment. This alternative involves a combination of active remediation and land use and engineered controls to address potential risks to human health and the environment, and is generally favored by regulatory agencies and the community. Community and state acceptance was evaluated during the public comment period. A Responsiveness Summary that presents and responds to comments on the Draft RAW is included as Appendix I to the final RAW.

Modifying and Additional Criteria Comparison

With respect to the DTSC Green Remediation criteria, Alternative 3 ranks higher than Alternative 2 because implementation of Alternative 2 would result in significantly more traffic, noise, dust, and increased risk of traffic-related death or injury from the trucks transporting and disposing excavated soil offsite. In addition, Alternative 2 would be more disruptive and would either involve demolition or shoring of existing buildings and removal of trees in the Historic Forest. Alternative 3 involves active remediation to address potential risks to human health and the environment and meet closure objectives related to planned residential use, and therefore, is acceptable to the state and the community.

6.2.4 Selection of Preferred Alternative

In considering the detailed analysis of alternatives, presented above and summarized in Table 4, the Trust has selected Alternative 3, Consolidation and Capping with LUCs and Post-Remediation Monitoring, as the preferred alternative because it provides the highest level of protection to human health and the environment, meets ARARs, is compatible with the proposed future land use of the Site for residential use and Historic Forest, and has a much lower cost ($1.96 million) compared to Alternative 2 ($8.31 million) even considering the cost of O&M at $492,710.

7.0 REMOVAL ACTION IMPLEMENTATION

Considering the screening and comparative analysis presented above, the Trust has selected Alternative 3, Consolidation and Capping with LUCs and Post-Remediation Monitoring, as the preferred alternative. Alternative 3 provides a high level of protection to human health, is implementable to construct, meets some green remediation criteria, will result in the greatest benefit for the lowest cost to implement, and will be designed to meet ARARs.

Due to the activities that were performed in the incinerator area in April 2015 during the Doyle Drive construction project, this area is not considered a risk to human health and the environment. Land use controls will be implemented for the incinerator area in conjunction with the final remedy for the Lendrum Court site.

7.1 LENDRUM COURT

7.1.1 Basis of Design

Based on the DTSC approved removal action in the Final RAW, a Remedial Design Implementation Plan (RDIP) will be developed for the selected remedy. The elements of the selected remedy are illustrated on Figure 7 and briefly described below.

This remedy entails consolidation and capping of Army-era debris, incinerator ash and soil containing COCs at levels above applicable cleanup levels. The remedy also includes long-term monitoring with LUCs. Details of the removal action, including confirmation sampling for COCs outside the capped area, will be developed in the RDIP and remedial design. Removal construction activities associated with the proposed removal action will be conducted in two phases with Phase 1 consisting of the landscape residential area and Phase 2 in the Historic Forest (see Figure 8). The following sections give a breakdown of the work components for each phase.

Phase 1 - Landscaped Area

Excavation, Consolidation, and Capping:

- Mobilization.
- Site preparation and clearing and grubbing, as needed.
- Excavation and stockpiling or consolidation of material.
- Hauling identified excavated material to approved landfills.
- Re-grading the excavated surface.
- Constructing cap:
    - Placing mesh or geotextile barrier.
    - Placing approximately 1.5 feet of clean import soil.
    - Placing rock or similar material around the base of trees to be preserved.
    - Construction of hardscape elements.
    - Construction of irrigation system to support vegetated cap and achieve cover stabilization.

Environmental Protection and Public Safety:

- Public education and communication.
- Installation of engineering controls in accordance with Best Management Practices (BMPs) used at the Presidio, including taping of windows nearby the work zones, establishing misting systems around the work area to control fugitive dust, as well as establishing surface water runoff and erosion controls, and means of keeping soil off paved roads.
- Installation of temporary exclusion fencing around the active work areas.
- Establishment of traffic control signage and devices as needed at points of entry to public roadways.
- Dust monitoring.

Sampling and Testing:

- Sampling and testing of the soil during excavation to confirm that remediation cleanup levels are attained in removal areas.

- Sampling stockpiles of excavated material for disposal.

Site Restoration:

- Planting in accordance with the Trust PTMP and landscape plans.

Phase 2 - Historic Forest

Excavation, Consolidation, and Capping:

- Mobilization.
- Site preparation and clearing and grubbing, as needed.
- Excavation and stockpiling or consolidation of material.
- Hauling identified excavated material to approved landfills.
- Re-grading the excavated surface.
- Constructing cap:
  - Placing mesh or geotextile barrier.
  - Placing rock or similar material around the base of trees.
  - Placing from 6 inches to 1.5 feet of clean import soil.

Environmental Protection and Public Safety:

- Public education and communication.
- Installation of engineering controls in accordance with BMPs used at the Presidio, establishing misting systems around the work area if necessary to control fugitive dust, as well as establishing surface water runoff and erosion controls and means of keeping soil off paved roads.
- Installation of temporary exclusion fencing around the active work areas.
- Establishment of traffic control signage and devices as needed at points of entry to public roadways.
- Dust monitoring.

Sampling and Testing:

- Sampling and testing of the soil during excavation to confirm that remediation cleanup levels are attained in removal areas.
- Sampling stockpiles of excavated material for disposal.

Site Restoration:

- Planting in accordance with the Trust forestry department plans to restore Historic Forest trees and understory plants.

Cap material that will be used will be fill imported from offsite. The potential cap material will meet the following minimum requirements prior to use at the Site:

- The potential fill material will be sampled at each fill source at a frequency and analytical suite consistent with DTSC guidance (DTSC, 2001);
- The chemical constituent levels in the potential cap soil shall be evaluated using site-specific cleanup levels identified in this RAW to ensure that they do not pose a site risk to human health or the environment;

- The soil type for potential cap material shall be compatible with site-specific restoration plans; and
- Site excavation areas will be re-graded and imported clean fill placed to provide proper drainage, and protected with erosion control measures, as necessary. Erosion control measures are discussed in Appendix F. Post-construction erosion control monitoring will be performed during the first year, and repairs will be made as needed.

Construction activities will be coordinated with Presidio cultural and natural resources personnel to avoid and/or mitigate potential impacts to the Site's cultural and ecological resources. Specific information regarding the pre-construction activities, excavation, stockpiling, staging and disposal of soils, haul roads, traffic control elements, air monitoring programs, dust and erosion control measures, and other details regarding the remedy will be set forth in the RDIP, design documents, including an air monitoring plan, as necessary. Construction will be scheduled and BMPs will be followed during the removal action to reduce emissions and minimize impacts to human health and the environment. Project control measures to be included in the Site removal action to minimize impacts on resources are described in Appendix F. Specific plans containing the details of these measures will be submitted under a separate cover or included in the RDIP.

By combining the above elements, the selected remedy will meet the RAOs and will protect potential receptors and the environment during the remediation process.

LUCs will be adopted to preserve the integrity of the constructed cap, and restrict residential land use. The LUC will include the area of the former incinerator area. The LUCs will also restrict digging through the constructed cap in a manner that is inconsistent with the O&M plan, and restrict uncontrolled irrigation on the surface. The LUC implementation and property transfer process is detailed in Section 8.4 below.

The Site is located in an area of high seismicity. The San Andreas Fault, capable of a magnitude 7.9 earthquake, is located approximately 6 miles from the Site. As a result, the Site can expect strong shaking during a seismic event. Design of the selected alternative will include evaluation of seismic stability.

By combining the above elements, the selected remedy will meet the RAOs and will protect potential receptors and the environment during the remediation process.

7.1.2 Control Measures

Construction will be scheduled and BMPs will be followed during the removal action in a manner intended to reduce emissions and minimize impacts to human health and the environment. Project control measures to be implemented during Site removal activities to minimize impacts on resources include, but are not limited to, air quality monitoring, dust control, storm water management, restricted Site access to prevent public exposure during earthwork activities, and site restoration activities. A list of project controls is provided in Appendix F.

7.1.3 Air Monitoring During Construction

Construction activities associated with implementation of the removal action at the Site will involve equipment and vehicles traveling over dirt surfaces and soil removal and handling. These activities generate dust in the form of particulate matter (PM). To mitigate fugitive emissions of PM and maintain acceptable levels of PM in air at the perimeter of the Site, the Contractor will implement standard BMPs in accordance with the Air and Dust Monitoring and Mitigation Plan (ADMMP) included in the RDIP. The ADMMP describes the strategies for dust management and air monitoring during removal action activities at the Site and identifies protocols to achieve the following objectives:

- Identify action levels intended to be protective of public and worker health;
- Assess the need and effectiveness of dust controls;
- Document perimeter air quality during onsite earthmoving activities; and
- Identify BMPs for dust mitigation during remedial construction at the Site.

Action levels presented in the ADMMP for maximum concentrations of respirable PM and target compounds are intended to reduce the possibility of adverse health impacts to workers and residents. BMPs for dust control are expected to minimize risks of inhalation, ingestion, and skin contact with particulates and target compounds.

Baseline air samples will be collected prior to beginning earthmoving activities. The analytical results from the baseline samples will be used to characterize background concentrations of airborne target chemicals and dust at Lendrum Court. The background conditions will serve as a point of comparison for the air sampling data obtained during earthmoving activities.

7.1.4 Field Variances

Variances from the RAW will be discussed with DTSC prior to any action being taken except when an immediate response is required due to an emergency. DTSC will be notified if an emergency response is implemented. Field variances will be documented in the Removal Action Completion Report prepared after remedial construction is complete.

7.2 INCINERATOR AREA

Removal actions including soil removal and disposal, additional characterization of in-situ soil, spreading and grading of stockpiled soil suitable for reuse, and placement of a 2-foot thick soil cover were implemented at the Incinerator Area in early 2015. In addition, new highway pavement was placed on other impacted areas. Landscape plants to be installed as part of the Doyle Drive Replacement Project will be maintained by Caltrans and the Trust. Because the existing cap prevents exposure to onsite COCs, the cap is considered protective of human health and the environment. In conjunction with the final remedy for Lendrum Court, LUCs will be implemented in this area. The LUC will document the nature of contamination managed in place and detail future site use restrictions and requirements when activities potentially disturbing the cover are implemented. The area was capped with soil generated from the north bound battery tunnel, a

non-remediation area within the Doyle construction corridor. The incinerator area is shown relative to the Lendrum Court site in Figure 8.

8.0 SAMPLING AND ANALYSIS PLAN

The field sampling program during Site removal action activities will include: 1) confirmation soil sampling within the consolidation areas upon completion of impacted soil removal, 2) confirmation soil sampling of the "hot spot" area west of Building 1258, and 3) stockpile sampling of impacted soil and potential fill soil. Details of the sampling program will be provided in a Sampling and Analysis Plan in the RDIP.

9.0 TRANSPORTATION PLAN

All roads in the vicinity of the Site would remain accessible to the public for the duration of the project. Traffic control signage and devices would be established at points of entry to public roadways, and flaggers would be utilized, as necessary, to control traffic during peak transit hours. At a minimum, traffic control staff will be employed on all haul days to coordinate traffic in the local area. The contractor (or contractors) would mobilize equipment and workers to the project staging areas, which would be fenced to exclude the public. Access would be established from the staging area at or near the overlook and parking area at the junction of Lendrum court and Lincoln Boulevard (Figure 9). Figure 9 presents a Site Access and Haul Routes plan to be implemented during construction, and depicts locations of staging areas.

10.0 HEALTH AND SAFETY

A comprehensive health and safety plan (HSP) will be prepared for removal action implementation activities to be conducted at the Site. The HSP will be provided in the RDIP. The intent of the HSP, which includes protocols to be followed during remediation activities, is to ensure the health and safety of onsite project employees, visitors, and the public during all Site work. The HSP identifies policy, procedures, and systems to be followed by project personnel, and is required to be followed by TRC employees, subcontractors, vendors, visitors, and agency representatives at the Site.

The HSP is implemented in conjunction with other TRC health and safety programs, including the TRC Injury and Illness Prevention Program (IIPP). In addition, project procedures will guide the Job Safety Analysis (JSA) documents created for critical work, safety task assignments used daily to direct that day's activity, as well as additional postings, signs, or informational memos regarding safety. JSA documents are intended to be fluid, and sections will be amended or added when new safety hazards are identified as the project proceeds.

A copy of the HSP will be readily available during field activities. On the morning of each day of field activities, a health and safety meeting will be conducted with all Site workers to discuss the health and safety issues and concerns related to the specific work, including safety concerns regarding coordination of remediation activities. All Site workers will be required to review and sign the TRC HSP before conducting work at the Site. In addition, Site workers shall meet the training requirements specified in the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (29 CFR 1910.120[e]).

11.0 PUBLIC PARTICIPATION

To facilitate information exchange between the Trust and the public on remediation activities in the Presidio, the Trust prepared a Community Relations Plan (CRP) (Trust, 2001). The CRP provides information on public participation in the environmental cleanup decisions at the Presidio and opportunities for public input. A 2015 supplement specific to the Lendrum Site was prepared and approved by DTSC. In accordance with the supplement to the CRP and DTSC RAP Guidance (DTSC, 1995), the Draft RAW has been subject to public review and comment as follows:

- Early consultation and coordination with the DTSC regarding the proposed removal alternatives.
- Establishment of a public information website and series of community meetings to update residents in the North Fort Scott neighborhood on the status of Site remediation activities.
- Preparation and distribution of a fact sheet (called a Proposed Plan) on the Draft RAW to a Presidio Environmental Remediation mailing list, DTSC RAW Mailing List, and Presidio tenants near the project site. The Proposed Plan for the Draft RAW was distributed prior to the start of the public comment period.
- Announcement of the release of the Draft RAW for public review in a Presidio E-Newsletter (transmitted to Presidio tenants), advertised in the San Francisco Chronicle, and posted on the Trust's public website and DTSC's EnviroStor website.
- A 30-day public comment period on the Draft RAW that was announced by a public notice. The public comment period was held June 1 to July 1, 2015 as specified in the Proposed Plan and public notice.
- A public meeting was held on June 18, 2015, to present the contents of the Draft RAW and receive comments.
- Preparation of a Responsiveness Summary that responds to oral and written comments on the Draft RAW received during the public comment period. The Responsiveness Summary is included as Appendix I.
- Availability of the Administrative Record. Documents related to the RAW are available for public review as part of the Administrative Record, maintained at the Presidio Library at 103 Montgomery Street, San Francisco. The Administrative Record List is included as Appendix E.

- Preparation of California Environmental Quality Act (CEQA) documents. CEQA requires State and local agencies to consider the environmental consequences of projects that they undertake, fund, or permit. A CEQA Initial Study (IS) and Draft Negative Declaration were prepared and made available for comment concurrently with the Draft RAW.

12.0 LAND USE CONTROLS

The Trust has executed an Operations and Maintenance Agreement with DTSC (DTSC, 2012) that includes as an element the Land Use Controls Master Reference Report (LUCMRR) (Trust, 2009). The LUCMRR was prepared by the Trust to serve as the implementation and enforcement plan to ensure that the LUCs in place in Area B of the Presidio are maintained to protect public health and the environment.

Whenever the Trust transfers real property that is subject to LUCs and resource use restrictions to another federal agency, the transfer documents shall require that the federal transferee include the LUCs, and applicable resource use restrictions, in its resource use plan or equivalent resource use mechanism. The Trust shall advise the recipient federal agency of all obligations contained in the decision documents, including the obligation that a State Land Use Covenant will be executed and recorded pursuant to 22 CCR Section 67391.1 in the event the federal agency transfers the property to a non-federal agency.

If at any point, the Trust is given authority to transfer real property subject to resource use restrictions and LUCs to a non-federal entity, it will provide information to that entity in the draft deed and transfer documents regarding necessary resource use restrictions and LUCs, including the obligation that a State Land Use Covenant will be executed and recorded pursuant to 22 CCR Section 67391.1. The signed deed will include LUCs and resource use restrictions equivalent to those contained in the State Land Use Covenant and applicable decision documents.

The Trust will provide notice to DTSC and the Regional Water Quality Control Board (RWQCB) at least six (6) months prior to any transfer or sale of any site within the Presidio so that DTSC and the RWQCB can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective LUCs. If it is not possible for the facility to notify DTSC and the RWQCB at least 6 months prior to any transfer or sale, then the facility will notify DTSC and RWQCB as soon as possible but no later than 60 days prior to the transfer or sale of any property subject to LUCs. In addition to the land transfer notice and discussion provisions above, the Trust further agrees to provide DTSC and the RWQCB with similar notice, within the same timeframes, as to federal-to-federal transfer of property. The Trust shall provide a copy of the executed deed or transfer documents to DTSC and the RWQCB.

13.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In accordance with CEQA, DTSC has evaluated the potential environmental impacts of the proposed RAW (Project) in an IS and has prepared a Final Negative Declaration for the Project. DTSC has determined that there will no significant impacts resulting from implementation of the proposed RAW. The IS is included in Appendix G of this RAW.

14.0 REFERENCES

AMEC, 2011. Technical Memorandum and Request for Approval Updated Human Health Preliminary Remediation Goals for Carcinogenic Polynuclear Aromatic Hydrocarbons in Soil, Presidio of San Francisco, California, September 26.

AMEC, 2013. Development of Zinc Background Levels for Colma Formation and Mixed Dune and Colma Formation Soils, Presidio of San Francisco, California, January 8.

California Department of Food and Agriculture (CDFA), 2004. Evaluation of Heavy Metals and Dioxin in Inorganic Commercial Fertilizers.

California Department of Transportation (Caltrans), 2015. E-mail correspondence from David Yam, April 14.

DTSC, 1995. Remedial Action Plan Policy, Guidance Document No. EO-95-007-PP, December.

DTSC, 2001. Information Advisory – Clean Imported Fill Material, October.

DTSC, 2009. Interim Advisory for Green Remediation, December.

DTSC, 2010. Letter to the Presidio Trust regarding background levels for polynuclear aromatic hydrocarbons, August 25.

DTSC, 2012. Operations and Maintenance Agreement, Presidio Trust and United States Department of the Interior, National Park Service. Docket No. HAS-O&MEA 12/13-037, December.

DTSC, 2014a. Letter from George Chow to Ms. Eileen Fanelli of the Presidio Trust dated January 9, 2014, requesting a technical memorandum on proposed actions to minimize the exposure of Lendrum Court residents to surface soils while a final remedial action is developed.

DTSC, 2014b. Letter from George Chow to Ms. Eileen Fanelli of the Presidio Trust dated March 7, 2014, approval of the Final Lendrum Court Investigation Summary Report and Screening Risk Evaluation, dated 28 February 2014.

DTSC, 2014c. Letter from George Chow to Ms. Eileen Fanelli of the Presidio Trust dated July 24, 2014, concurrence with the Final North Fort Scott Investigation Summary Report, dated 8 July 2014.

EKI, 2002. Development of Presidio-wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco, California, October (with updates through 2013).

EKI, 2014a. Lendrum Court Investigation Summary Report and Screening Risk Evaluation, Presidio of San Francisco, California, February 28.

EKI, 2014b, Revised Closure Request for Four Former Area A Fuel Distribution System Sections, Phase II, March.

EKI, 2014c. North Fort Scott Investigation Summary Report, Presidio of San Francisco, California, July 8.

EKI, 2014d. Additional Sampling Workplan for Lendrum Court, Presidio of San Francisco, California, August 30.

EKI, 2015. Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation, Presidio of San Francisco, California. May 19.

ENVIRON Corporation, ENTRIX, IRIS Environmental, and ENV America, 2002. Background Levels of Polycyclic Aromatic Hydrocarbons in Northern California Surface Soil, June 7.

MACTEC, 2007. Technical Memorandum, Human Health Soil Preliminary Remediation Goals and Toxic Equivalency Values for Dioxins and Furans, Presidio of San Francisco, California, March 28.

Office of Environmental Health Hazard Assessment (OEHHA), 2009. Revised California Human Health Screening Levels for Lead, September.

Presidio Trust, 2001. Community Relations Plan, Presidio of San Francisco, California, June.

Presidio Trust, 2002. Presidio Trust Management Plan.

Presidio Trust, 2009. Land Use Controls Master Reference Report.

Presidio Trust, 2014. Letter to Mr. George Chow of the DTSC dated March 24, 2014 on the subject of Transmittal of the Technical Memorandum Identifying Potential Temporary Remedial Actions to Minimize Exposure at Lendrum Court, Presidio of San Francisco, California, March 24.

Regional Water Quality Control Board, 2014. No Further Action for Fuel Distribution System (FDS) Sections BR9-1, CF-4, CF-12, MT-2, Presidio of San Francisco, March 13.

Terraphase, 2015a. Technical Memorandum - Hook Ramp Drainage Swale Sample Results, Doyle Drive Project, San Francisco, California, March 25.

Terraphase, 2015b. Technical Memorandum - Hook Ramp Drainage Swale Demolished Incinerator Area Cap, Doyle Drive Project, San Francisco, California, May 6.

USGS, 2006. Geologic Map of the San Francisco Bay Region, Scientific Investigations Map 2918, R.W. Graymer, B.C. Moring, G.J. Saucedo, C.M. Wentworth, E.E. Brabb, and K.L. Knudsen.

USEPA, 1988. CERCLA Compliance with Other Laws Manual Part I (Interim Final), EPA Office of Solid Waste and Emergency Response (OSWER), EPA/540/G-89/006, August.

TABLES

Table 1
Soil Cleanup Levels for Chemicals of Concern
Lendrum Court
Final Removal Action Work Plan
Presidio of San Francisco, California

Chemicals of Concern	Chemical of Concern for Landscaped/ Residential Area? [a]	Chemical of Concern for Historic Forest/Recreational Area? [b]	Chemical of Concern for Incinerator Area?	Applicable Cleanup Levels [c]								Site-Specific Cleanup Levels		
				Human Health Soil PRGs			Ecological PRGs		Background Level		Regional Background / Ambient Levels [d]	Landscaped / Residential Area [e]	Historic Forest / Recreational Area [f]	Incinerator Area
				Residential	Recreational	Commercial/ Industrial Worker	Buffer Zone	Special-Status	Serpentinite Lithology	Colma Formation				
				(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Metals														
Arsenic	Yes	No	No	0.36	0.88	3.3	64	10	5.4	6.2	11	6.2	--	--
Barium	Yes	No	No	5,000	12,000	130,000	500	320	230	180	1,500	500	--	--
Copper	Yes	No	No	--	--	--	120	30	85	49	76	120	--	--
Lead	Yes	Yes	Yes	80	180	320	300	160	66	7.5	48	80	160	320
Zinc	Yes	No	No	22,000	52,000	570,000	50	4	160	79	150	160	--	--
Polynuclear Aromatic Hydrocarbons (PAHs)														
Benzo(a)pyrene	Yes	No	No	0.046	0.11	0.38	40	30	--	--	0.92 to 1.5	0.046	--	--
Benzo(a)pyrene equivalent	Yes	No	No	0.046	0.11	0.38	40	30	--	--	0.92 to 1.5	0.046	--	--
Dibenzo(a)anthracene	Yes	No	No	0.046	0.11	0.38	40	30	--	--	0.92 to 1.5	0.046	--	--
Dioxin and Furans (values are in pg/g)														
TCDD TEQ	Yes	Yes	No	3.5	8.2	17	--	--	--	--	7 to 20	3.5	8.2	--

Abbreviations:
-- = not available / applicable
mg/kg = milligrams per kilogram
pg/g = picograms per gram
TCDD TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalency

Footnotes:

[a] Chemicals of Concern as listed in EKI's Table 6A provided in Appendix B.

[b] Chemicals of Concern as listed in EKI's Table 6B provided in Appendix B.

[c] Applicable cleanup levels from the following sources:
Table 7-2 of EKI's 2002 (with updates through 2013) *Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water* . Presidio of San Francisco
Lead Residential: Office of Environmental Health Hazard Assessment's (OEHHA) September 2009 *Revised California Human Health Screening Levels for Lead* .
Lead Recreational: March 18, 2015 Personal Communication between Eileen Fanelli, TRC, and Department of Toxic Substances Control
TCDD TEQ Human Health Soil PRGs: MACTEC's 2007 *Technical Memorandum, Human Health Soil Preliminary Remediation Goals and Toxic Equivalency Values for Dioxins and Furans Presidio of San Francisco, California.*

[d] Regional background and ambient levels from the following sources:
Arsenic: D.J. Duverge's 2011 *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region,* Master of Science in Geosciences.
Metals: Upper Estimate Regional Background from Table 4-Comparison of Background Values to Other Background Estimates from Lawrence Berkeley National Laboratory (LBNL) 2009 *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory*
PAHs: ENVIRON et. al. 2002 *Background Levels of Polycyclic Aromatic Hydrocarbons in Northern California Surface Soil* . D. Diamond, D. Baskin, D. Brown, L. Lund, J. Najita, and I Javandel, June 2002 Revised April 2009
TCDD TEQ: California Department of Food and Agriculture (CDFA) 2004 *Evaluation of Heavy Metals and Dioxin in Inorganic Commercial Fertilizers.*

[e] The cleanup levels for the landscaped/residential areas are the lower of the residential and ecological buffer zone. If the applicable residential human health or ecological buffer-zone cleanup level is less than the background level, the greater of the two background threshold levels was selected as the cleanup level

[f] The cleanup levels for the Historic Forest/recreational area are the lower of the residential and ecological buffer zone. If the applicable recreational human health or ecological special-status cleanup level is less than the background level, the greater of the two background threshold levels was selected as the cleanup level

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [(1)]	Comments
CHEMICAL-SPECIFIC ARARs AND TBCs				
Federal Chemical-Specific ARARs and TBCs				
Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of TSCA)	15 U.S.C. §2681, 2683, and 2688; 40 Code of Federal Regulations (CFR) Section 745.65(c) and 745.227(h)(4)	66 Fed. Reg. 1206, 1238 (5 January 2001) revised 40 CFR Part 745 to establish a hazard standard of 400 mg/kg for lead in bare soil in a play area at residential sites and child-occupied facility sites.	Relevant and appropriate	Lead from lead-based paint has been detected in soils at Lendrum Court. The human health residential lead cleanup level for the Presidio is based on this TSCA value (400 mg/kg), as well a maximum average concentration of 80 mg/kg in residential areas of the site and 180 in recreational areas of the site determined with the Department of Toxic Substances Control (DTSC) LeadSpread 8 model.
U.S. EPA Office of Solid Waste and Emergency Response (OSWER) Lead Guidance	OSWER Directive #9355.4-12 (Revised Interim Soil Lead Guidance for CERCLA sites and RCRA Corrective Action Facilities, July 1994); OSWER #9200.4-27P (Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, August 27, 1998)	Outlines approach to determining protective levels for lead in soils at CERCLA sites and identifies 400 parts per million (ppm) as screening level for lead in soil for residential land use.	Relevant and appropriate	Lead is a primary COC in site soils. The land use in the area includes residential and recreational. The human health residential clean up value of 80 mg/kg in residential areas of the site and 180 in recreational areas of the site was determined with the DTSC LeadSpread 8 model.
U.S. EPA, Region 9, Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites	U.S. EPA (January, 2015) (http://www.epa.gov/region9/superfund/prg/index.html)	RSLs are risk-based concentrations which can be used to evaluate whether a chemical release may pose a risk that warrants further investigation. RSLs are not legally enforceable standards. They are used for site "screening" and should not be used as cleanup levels for a CERCLA site until the other remedy selections identified in the relevant portions of the National Contingency Plan (NCP), 40 CFR Part 300, have been evaluated and considered.	To be considered	The cleanup levels for Lendrum Court were developed using a risk-based approach similar to the development of RSLs.
State Chemical-Specific ARARs and TBCs				
Water Board Environmental Screening Levels (ESLs)	Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, December 2013 (http://www.swrcb.ca.gov/sanfranciscobay/esl.shtml)	ESLs can be used to evaluate whether a chemical release may pose a risk that warrants further investigation. ESLs are not legally enforceable standards. They are used for site "screening".	To be considered	The cleanup levels for Lendrum Court were developed using a risk-based approach similar to the development of ESLs.
Office of Environmental Health Hazard Assessment (OEHHA) California Human Health Screening Levels (CHHSLs) for Lead	*Revised California Human Health Screening Levels for Lead*, OEHHA, September 2009	The CHHSL document presents revised lead soil screening levels for residential and commercial/industrial worker receptors using a 1 microgram per deciliter (µg/dL) benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses. DTSC's LeadSpread model and U.S. EPA's adult lead model were used with default assumptions for residential and commercial/industrial worker receptors.	To be considered	The CHHSL for lead in soil is 80 mg/kg, which is the Presidio residential preliminary remediation goal. The exposure point concentrations for lead in soil under baseline conditions at Lendrum Court range from 75 to 82 mg/kg, which approximate the 80 mg/kg preliminary remediation goal.
Presidio-Wide Cleanup Levels	*Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water*, October 2002 (with updates through 2013)	The Cleanup Levels Document presents cleanup levels for soil, sediment, groundwater, and surface water that are protective of human health and ecological habitat at the Presidio. The cleanup levels were developed under DTSC guidance and are anticipated to be applied to new decision documents for the Presidio.	To be considered	The soil cleanup levels for Lendrum Court are based on the criteria established in the Cleanup Levels Document.

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [(1)]	Comments
DTSC LeadSpread, Computer Model, Version 8.	LeadSpread 8, DTSC Lead Risk Assessment Spreadsheet (http://www.dtsc.ca.gov/AssessingRisk/Leadspread.cfn)	A State of California computer model which calculates preliminary remediation goals for lead in soil based on DTC default factors and exposure assumptions based on planned land use.	To be considered	Lead is a primary COC in site soils. The land use in the area includes residential and recreational. The human health residential clean up value of 80 mg/kg in residential areas of the site and 180 in recreational areas of the site was determined with the DTSC LeadSpread 8 model.
LOCATION-SPECIFIC ARARs AND TBCs				
Federal Location-Specific ARARs and TBCs				
National Historic Preservation Act (NHPA)	54 U.S.C. 300101 et seq.; 36 CFR §§ 800.1–.16, 60.2 (effect of listing in National Register), 65.2 (effect of designation as National Historic Landmark), 68.1–.4 (Dept. of Interior [DOI] standards for historic property projects assisted by the National Historic Preservation Fund)	This Act is applicable to the entire Presidio, since it is designated in the National Register as a historic landmark.	Applicable	
	The Trust Programmatic Agreement	The Programmatic Agreement between the Advisory Council on Historic Preservation, the State Historic Preservation Officer, the Trust and NPS, sets forth the procedures to implement the historic compliance process of Section 106 of the NHPA.	To be considered	
Archeological Resources Protection Act (ARPA)	16 USC §§ 470aa–470mm; 43 CFR §§ 7.1–.37 (DOI regulations for protection of archeological and historical resources)	ARPA prohibits excavation of, damage to, or destruction of archeological resources on public lands without a permit issued by the federal land manager.	Applicable	The procedural permit requirement is not applicable to on-site remedial action. However, the substantive requirements of ARPA apply to remedial actions affecting archeological resources, Native American resources, or artifacts at the Presidio.
Federal Endangered Species Act (ESA)	16 USC §§ 1531(c)(1); 1532; 1533(d); 1536(a)–(d), (g), (h); 1538(a)(1)(B), (a)(1)(G), (a)(2)(B), (a)(2)(E); 1539(a), (c), (d); 1540(a)–(c); 50 CFR §§ 11.1–11.26, 13.1–13.29, 402.01–402.16, 424.01–424.21	Under the ESA, federal agencies must make sure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or cause the destruction or adverse modification of critical habitat. Two federal endangered or threatened bird species have been recorded as casual visitors to the Presidio and vicinity: marbled murrelet, and snowy plover. Five federal threatened or endangered plant species have been identified at various locations at the Presidio: Raven's manzanita, Franciscan manzanita, Presidio clarkia, Marin dwarf flax, and San Francisco lessingia. Additionally, critical habitat for the Franciscan manzanita has been designated on the Presidio.	Applicable	Threatened or endangered species are not known to occur in the vicinity of Lendrum Court. The Lendrum Court site is not located in critical habitat for the Franciscan manzanita.
Archeological and Historic Preservation Act (AHPA)	16 USC §§ 469–469c-2; 43 CFR §§ 7.1-3.7 (DOI regulations for protection of archeological and historic resources)	AHPA requires federal agencies, prior to engaging in activities that could cause irreparable loss of scientific, prehistorical, historical, or archeological data, to notify the Secretary of the Interior of the threatened data and the proposed activities, and to preserve the data or request that the Secretary do so. The DOI must conduct a survey and recovery effort if it finds the data are significant and may be irrevocably lost without such action.	Applicable	
Native American Graves Protection and Repatriation Act (NAGPRA)	25 USC §§ 3001-3013; 43 CFR §§ 10.1-.17	NAGPRA establishes a system for determining ownership and proper disposal/removal of Native American cultural items discovered in federal lands and requires inventorying and identification of those items. Such items must be returned to the relevant tribe.	Applicable	

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [(1)]	Comments
Migratory Bird Treaty Act	16 USC §§ 703–708; 50 CFR §§ 10.12, 10.13	The Act prohibits the taking of migratory birds, their nests and their eggs, unless permitted by the Secretary of the Interior. Migratory birds have been observed at the Presidio.	Applicable	
Golden Gate National Recreation Area (GGNRA) Act	16 USC § 460bb–460bb-5, purposes of Section 1	Among the purposes stated in Section 1 of the GGNRA Act are to preserve the recreation area, to the degree possible, in its natural setting, and protect it from development and uses that would destroy the scenic beauty and natural character of the area.	Applicable	
Presidio Trust Act	The Presidio Trust Act, 16 U.S.C §460bb appendix	The Trust shall manage the leasing, maintenance, rehabilitation, repair, and improvement of property within the Presidio under its administrative jurisdiction using the authorities provided in this section, which shall be exercised in accordance with the purposes set forth in Section 1 of the act, entitled "An Act to establish the Golden Gate National Recreation Area in the State of California, and for other purposes," approved 27 October 1972 (Public Law 92-589; 86 Stat. 1299; 16 USC 460bb), and in accordance with the general objectives of the General Management Plan for the Presidio. Resolution 99-11 of the Presidio Trust Board sets forth the general objectives which are not explicit in the General Management Plan Amendment.	Applicable	
Vegetation Management Plan (VMP)	*Presidio of San Francisco Vegetation Management Plan and Environmental Assessment*, December 2001	The VMP guides the management of vegetative resources within the Presidio, including enhancing, restoring, and rehabilitating native and planted vegetation at the Presidio. The VMP establishes the vegetative schemes for the Presidio.	To be considered	
Presidio Trust Management Plan (PTMP)	*Presidio Trust, Presidio Trust Management Plan, Land Use Policies for Area B of the Presidio of San Francisco,* May 2002	The PTMP provides guidelines for the management and improvement of Area B of the Presidio. The PTMP emphasizes preservation and enhancement of the Presidio's cultural, natural, scenic, and recreational resources for public use.	To be considered	
Clean Water Act (CWA)	33 USC §1344; 33 CFR §323, 320-330; 40 CFR 230, 232	Section 404 of the CWA regulates the placement of dredged and fill material into waters of the U.S., including wetlands. The Act authorizes the issuance of permits for such discharges as long as the proposed activity complies with environmental requirements specified in Section 404(b)(1) of the CWA. The U.S. Army Corps of Engineers (USACE) has primary responsibility for the permit program and issues Section 404 permits. Section 404 of the CWA requires that states certify compliance of federal permits or licenses with state water quality requirements and other applicable state laws. Under Section 401, states have authority to review any federal permit or license that may result in a discharge to wetlands and other waters under state jurisdiction.	Applicable	Wetland habitats have not been identified at Lendrum Court.
Federal wetlands regulations and state wetland policy	Executive Order 11990; 40 CFR § 6.302.(a), (d), (g); CA Fish & Game Commission's Wetlands Policy	Executive Order 11990 requires federal agencies conducting certain activities to avoid, to the extent practicable, adverse impacts associated with the destruction or loss of wetlands. The Cal. Dept. of Fish & Game Commission's wetlands policy instructs the Dept. of Fish & Wildlife to recommend protection, preservation, restoration, enhancement and expansion of wetlands when the Dept. of Fish & Wildlife acts in an advisory role.	Executive Order - Relevant and appropriate CA Wetlands Policy – To be considered	Wetland habitats have not been identified at Lendrum Court.

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [1]	Comments
State Location-Specific ARARs and TBCs				
Basin Plan, Wetlands Protection Management	Porter-Cologne Water Quality Control Act promulgated under California Water Code, § 13240-13241, Basin Plan, pp. 4-49 to 4-51	The Basin Plan reaffirms the goal of the California Wetlands Conservation Policy of ensuring no net loss of wetlands.	To be considered	Wetland habitats have not been identified at Lendrum Court.
California Regulations for Discovery of Human Remains	Cal. Health & Safety Code §§ 7050.5	The Cal. Health & Safety Code establishes intentional disturbance, mutilation, or removal of interred human remains as a misdemeanor. This Code requires that further excavation or disturbance of land, upon discovery of human remains outside of a dedicated cemetery, cease until a county coroner makes a report. This Code requires a county coroner to contact the Native American Heritage Commission within 24 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.	To be considered	
California Endangered Species Act (CESA)	Cal. Fish & Game Code §§ 2053–2054, 2081, 2080.1, 2081.1; 14 CCR §§ 670.2, 670.5, 783.1-783.6; Cal. Fish & Game Code § 2014	The California ESA provides authority similar to the Federal ESA for the protection of threatened and endangered species listed by the State. Five California endangered or threatened plant species have been identified at the Presidio: Raven's manzanita, Franciscan manzanita, Presidio clarkia, Marin dwarf flax, and San Francisco lessingia. Four California endangered or threatened bird species have been recorded as casual visitors to the Presidio and vicinity: bald eagle, marbled murrelet, snowy plover, and willow flycatcher.	To be considered	Threatened or endangered species are not known to occur in the vicinity of Lendrum Court.
California Native Plant Protection Act	Cal. Fish & Game Code § 1908; 14 CCR §§ 783.1–783.6	The California Native Plant Protection Act prohibits the taking of endangered or rare native plants, unless authorized by an incidental take permit. The Presidio has a number of endangered or rare plants specified under the California Native Plant Protection Act.	To be considered	Endangered or rare native plant species are not known to occur in the vicinity of Lendrum Court.
California Fish & Game Code regarding protection of birds, mammals, reptiles, or amphibia	Cal. Fish & Game Code §§ 3503, 3503.5, 3511, 3513; 14 CCR § 747	The California Fish & Game Code prohibits taking, possessing, or destroying certain birds, their nests, and their eggs; mammals; reptiles; or amphibia. Migratory and other birds have been observed at the Presidio. Remedial actions that include removal of vegetation that may provide nests for migratory birds may require additional review.	To be considered	

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [1]	Comments
ACTION-SPECIFIC ARARs AND TBCs				
Federal Action-Specific ARARs and TBCs				
Resource Conservation and Recovery Act (RCRA)	40 CFR §§260-299; Subtitle C (hazardous waste requirements); State of California citation: Cal. Health & Safety Code, Title 22	RCRA is the primary federal law governing the disposal of hazardous and non-hazardous or municipal solid waste passed by Congress in 1976 and amended in 1984 by Hazardous and Solid Waste Amendments (HSWA). RCRA Subtitle C sets standards for the classification of hazardous waste, and requirements governing handling, management, transportation, treatment, and off-site disposal of these wastes. As specified in the Consent Agreement, the Trust addresses releases of (1) hazardous substances and hazardous waste at the Presidio under its hazardous substances and hazardous waste program overseen by the DTSC; and (2) non-hazardous petroleum hydrocarbons at the Presidio under its petroleum program overseen by the Water Board.	Relevant and appropriate	
Toxic Substances Control Act (TSCA)	15 USC §§ 2602, 2605(e) (regulation of polychlorinated biphenyls [PCBs]); 40 CFR 761.1-761.3 (definitions) & Subparts C (§§ 761.40-.45)(marking of PCBs and PCB items), D (§§ 761.50-.79) (storage and disposal of PCBs), N-R (§§ 761.260-.359) (sampling and analysis of PCB waste	TSCA regulates the use and disposal of various chemicals, including PCBs. Subpart D of 40 CFR Part 761 outlines disposal and cleanup procedures for wastes with a PCB concentration of at least 50 ppm [40 CFR §§ 761.60-.61] and prohibits the unpermitted discharge of PCBs to navigable waters or a treatment works at more than 3 parts per billion (ppb) concentration [id. § 761.50(a)(3)]. Certain PCBs in soil must be cleaned up and disposed of in accordance with Section 761.61. Certain liquid PCBs must be incinerated or otherwise disposed of in accordance with Section 761.60(a) or (e) [id. § 761.61(b)]. TSCA also contains specified requirements for labeling of containers and equipment with PCB-containing materials, and of transport vehicles carrying a certain amount of liquid PCBs (id. § 761.40).	Relevant and appropriate	PCBs are not chemicals of concern at Lendrum Court.
Clean Water Act (CWA)	33 USC §1342	Section 402 of the CWA regulates discharges of pollutants under the National Pollutant Discharge Elimination System (NPDES). The storm water discharges program is regulated by the State Water Board for certain municipal, industrial, and construction storm water discharges through NPDES permits. NPDES permits include requirements to prevent or reduce discharges of pollutants that cause or contribute to violations of water quality objectives.	Relevant and appropriate	The procedural permit requirement is not applicable to on-site remedial action at Lendrum Court.
Fish and Wildlife Coordination Act	16 USC §§ 661-663(c)	If stream realignment or modification is proposed or authorized by a Federal agency in an area not under its land management authority, then 16 USC § 662(a) requires the Federal agency to consult with U.S. Fish and Wildlife Service and the DOI to prevent loss or damage to wildlife as a result of the project. Under 16 USC § 662(h), projects carried out by Federal agencies with respect to Federal lands under their jurisdiction are exempt from and not applicable to these provisions.	To be considered	

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [(1)]	Comments
State Action-Specific ARARs and TBCs				
Voluntary Cleanup Agreement for the Lendrum Court Site	State of California Environmental Protection Agency Department of Toxic Substances Control Voluntary Cleanup Agreement Docket No. HSA-VCA 14/15-005	Voluntary Cleanup Agreement executed by the DTSC and Presidio Trust that provides DTSC oversight of the cleanup of the Lendrum Court site under CERCLA, July, 31, 2014.	Applicable	
Operations and Maintenance Agreement for the Presidio of San Francisco (O&M Agreement)	Operation and Maintenance Agreement Among the California Department of Toxic Substances Control, the Presidio Trust, and the U.S. Department of the Interior, National Park Service for the Presidio of San Francisco, Docket No. HSA-O&MEA 12/13-037 (12/3/2012)	The O&M Agreement establishes responsibilities and procedures among these parties for operation and maintenance of sites closed under CERCLA and RCRA, specifically governing sites closed with land use controls and regulatory reporting of newly discovered waste release sites or potential waste release sites. The Trust addresses releases of hazardous substances and hazardous waste at the Presidio under its hazardous substances and hazardous waste program overseen by the DTSC. The definition of hazardous substances governed under CERCLA excludes petroleum hydrocarbons, as specified in the NCP at 40 CFR, Part 300.5. Accordingly, the Trust addresses releases of petroleum hydrocarbons at the Presidio under its petroleum program overseen by the Water Board.	To be considered	A post-remediation Operations & Maintenance Plan is expected to be implemented at the Lendrum Court site following remedial construction,
Institutional controls on soil and groundwater	California Civil Code § 1471; Cal. Health & Safety Code § 25355.5(a)(1)(C); CCR tit. 22 § 67391.1(e)	Provides conditions under which land use restrictions will apply to successive owners of land. The substantive provision is the following general narrative standard: "to do or refrain from doing some act on his or her own land…where (c) each such act relates to the use of land and each such act is reasonably necessary to protect present or future human health or safety of the environment as a result of the presence of hazardous materials, as defined in § 25260 of the Cal. Health & Safety Code." This language provides authority for establishing a durable institutional control that will be implemented through incorporation of restrictive environmental covenants that run with the land in both the federal deed at the time of transfer of the property and in the Covenant to Restrict Use of Property with DTSC to be executed at the time of transfer. Whenever DTSC determines that it is not feasible to record a land use covenant for property owned by the federal government, such as transfers from one federal agency to another, DTSC and federal government shall use other mechanisms to ensure that future land use will be compatible with the levels of hazardous materials, hazardous wastes or constituents, or hazardous substances which remain on the property. Examples include: amendments to the federal government facility master plan, physical monuments, or agreements between the federal government facility and DTSC. The Presidio Trust's LUCMRR for Area B serves as the implementation and enforcement plan to meet the requirements of this Code. The LUCMRR describes the procedures used to implement LUCs at Area B sites at the Presidio.	Relevant and appropriate	LUCs are expected to be implemented following construction activities at Lendrum Court.
Basin Plan - Chapter 4: Effluent Limitations	Porter-Cologne Water Quality Control Act promulgated under California Water Code § 13240-13241, Basin Plan, pages 4-8 to 4-11	Limitations to construction-related storm water discharges are described in this provision.	To be considered	

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [1]	Comments
Discharge of Treated Groundwater Table 4-1: Discharge Prohibitions	Porter-Cologne Water Quality Control Act promulgated under California Water Code § 13240-13241, Basin Plan, pp. 4-17 to 4-18; Table 4-1	Table 4-1 more broadly describes discharge prohibitions (e.g., with respect to toxic substances, solid wastes, silt, sediments, oil, and petroleum by-products). Page 4-17 of the Basin Plan refers to SWRCB Resolution No. 88-160, Disposal of Extracted Groundwater from Cleanup Projects, which urges dischargers of groundwater extracted from site clean-up projects to reclaim their effluent. It states that when reclamation is not feasible, discharges must be piped to a municipal treatment plant or discharged under a National Pollutant Discharge Elimination System (NPDES) permit authorizing the discharge from these sites.	To be considered	
Surface Water Protection	Porter-Cologne Water Quality Control Act promulgated under California Water Code, § 13240-13241, Basin Plan pp. 4-28, 4-32, 4-40 to 4-41	Surface Water Protection and Management through nonpoint source control is regulated by the Water Board. Under the Construction General Permit 99-08-DWQ, the Water Board requires a Notice of Intent (NOI) to be filed prior to construction, a Storm Water Pollution Prevent Plan (SWPPP) to be prepared and implemented, and a Notice of Termination to be filed upon construction completion for construction activities involving disturbance of one acre or greater total land. Permit conditions address pollutant and waste discharges occurring during construction activities and the discharge of pollutants in runoff after construction. The Erosion and Sediment Control program establishes guidelines for the regulation of erosion and sedimentation for the protection of beneficial uses of water due to the impairment by sediment.	To be considered	
Hazardous Waste Requirements - Generation, Transport, and Disposal Regulations	State of California citation: Cal. Health & Safety Code §§ 25100–25249, 25250–25250.26, 25260–25929; 22 CCR §§ 66260.1–68500.35. Federal citation: 42 USC §§ 6901–6991i; 40 CFR Parts 260–282. §§ 25100-25166.5, 25179.1–.12 (land disposal restrictions [LDRs]), 25244–25244.24 (waste reduction and recycling); 22 CCR §§ 66260.10–66262.41, 66264.1–.172, 66265.16–199; 66268.10–.44, .105–113 (LDRs + treatment standards); 49 CFR Parts 172, 173, 178, 179 (transportation) [incorporated by reference]	Pursuant to 42 USC § 7926, the State of California is authorized to implement the federal RCRA Program. Federal statutes may apply to areas not covered by the state program, or where incorporated by reference.	Relevant and appropriate	
Medical Waste Handling Requirements	Cal. Health and Safety Code 117600-118360; SF Municipal Health Code §§ 1501-1514	Medical waste is required to undergo certain treatment requirements prior to disposal so that it can be characterized as a "solid" waste. Without such treatment, land disposal of medical waste is not permitted.	Relevant and appropriate	Medical waste is not expected to be encountered at Lendrum Court.
Solid (Nonhazardous) Waste Requirements	Cal. Pub. Res. Code §40000-40201, 43000-44820; 27 CCR §§ 20005-20278	These requirements govern disposal of nonhazardous solid waste and closure and post closure of solid waste management units.	To be considered	
Clean Closure Requirements	27 CCR § 20380(d)(2); 27 CCR § 21090(f); CCR § 21410	For clean closure, all waste, waste residues, contaminated containment systems components, contaminated subsoil, and all other contaminated materials are removed or decontaminated at closure pursuant to the specific requirements for landfills, etc. Clean closure renders the landfill no longer a threat to water quality.	Relevant and appropriate	

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [1]	Comments
Closure, Post-Closure Maintenance and Land Use Restrictions	Cal. Health and Safety Code §§ 25100-25124 (definitions), 25208-25208.17 (special rules for surface impoundments), 25209-25209.7 (land treatment units); 25245-25249 (financial responsibility and closure and maintenance of facilities), 25297.15, 25299.10-25299.99.3 (closure of/corrective action regarding USTs); 22 CCR §§ 66264.110-66264.120, 66265.110-66265.120; 67217 (post-closure care)	Provisions of the California Health and Safety Code and implementing regulations govern the method and timing of closure of certain types of locations with material above hazardous waste levels (e.g., landfills), and the required post-closure care of those facilities, including meeting associated financial requirements (H & S Code 25208-25208.17, 25245-25249 financial responsibility and closure and maintenance of facilities); 22 CCR 66264.110-66264.148, 66264.228 (surface impoundments); 22CCR 66264.258 (waste piles); H & S Code 25209-25209.7; 22CCR 66264.280 (land treatment units); 66264.310 (landfills); 66264.351 (incinerators).	To be considered	
Federal Clean Air Act (CAA), certain Bay Area Air Quality Management District (BAAQMD) Regulations	BAAQMD Regulations (see citations below)	Implementation of federal Clean Air Act requirements has been delegated, in part, to the State of California. The BAAQMD is the local implementing agency. Where BAAQMD requirements have been incorporated into the State Implementation Plan (SIP) and approved by EPA, they are federally-enforceable. Where BAAQMD requirements have not been incorporated into the SIP and approved by EPA, they are not federally enforceable.	Relevant and appropriate	
	Air Resources Board Executive Order G-02-026, Resolution 0128, Modification to Section 93105 of Title 17 of the CCR, Asbestos Air-borne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations	The Model Rule addresses potential asbestos releases that may occur during construction, grading, quarrying, and surface mining on areas that contain naturally occurring asbestos. Excavation in serpentine rock may result in the emission of naturally occurring asbestos. Such activities in areas larger than 1 acre will require a dust mitigation plan.	To be considered	Naturally-occurring asbestos is not expected to be encountered at Lendrum Court.
	BAAQMD Regulation 7; Regulation 8, Rule 40; and Regulation 9, Rule 2	These requirements regulate the emission of odorous substances, organic compounds, and hydrogen sulfide.	Relevant and appropriate	
	BAAQMD Regulation 8, Rule 15	BAAQMD Regulation 8, Rule 15 prohibits the use of certain types of liquid and emulsified asphalts (those that would emit large amounts of organic compounds). This rule was approved into the SIP on 22 March 1995, as amended by BAAQMD on 1 June 1994.	Relevant and appropriate	
California prohibitions on polluting waters of the State	Cal. Fish & Game Code § 5650	Cal. Fish & Game Code § 5650(a) prohibits depositing enumerated substances, including “any substance or material deleterious to fish, plant life, or bird life” into the waters of the state.	To be considered	
Underground Storage Tank (UST) Regulations	California Code of Regulations, Title 23, Chapter 16, Article 11	UST regulations protect waters of the state from discharges of hazardous substances from USTs.	Relevant and appropriate	No USTs are known to be present at Lendrum Court.

TABLE 2
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)
FINAL REMOVAL ACTION WORK PLAN, LENDRUM COURT
Presidio of San Francisco, California

ARAR	Citation	Description	ARAR Determination [1]	Comments
Site Cleanup Program (SCP) Recovery of Oversight Costs at the Presidio of San Francisco, San Francisco County, GeoTracker Global ID: SL0607548721	Porter-Cologne Water Quality Control Act promulgated under California Water Code Section 13304	In a May 20, 2014 letter to the Trust, the Water Board recognized the Trust's approved Petroleum Contingency Plan that established a process for reporting, investigating, and remediating previously unknown petroleum sites. Further, the Water Board letter stated that their oversight may be required in the event that previously unknown tanks or soil impacted with petroleum or related constituents are encountered as part of construction, maintenance, or other subsurface operations at the Presidio.	To be considered	While Water Board Order R2-2003-080 has been rescinded, the Petroleum Contingency Plan prepared in compliance with Task 16 remains in effect.
San Francisco Bay Water Board UST Program	California Health and Safety Code, Division 20, Chapters 6.7 and 6.75	The San Francisco Bay Water Board UST Program gives local agencies the authority to oversee investigation and cleanup of UST leak sites.	Relevant and appropriate	No USTs are known to be present at Lendrum Court.
City and County of San Francisco UST Regulations	San Francisco Health Code, Article 21	These regulations describe procedures that the San Francisco Department of Public Health requires UST owners and operators to follow in removing USTs.	To be considered	No USTs are known to be present at Lendrum Court.
City of San Francisco Noise Regulations	City of San Francisco Code, Article 29 § 2907 and 2908	These regulations describe provisions to regulate noise during operation of construction equipment and when performing construction work at night. Nighttime construction (between 8 p.m. to 7 a.m.) to erect, construct, demolish, excavate for, alter, or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA requires a permit by the Director of Public Works.	To be considered	
San Francisco Public Utilities Commission, Permit No. 05-0246 Industrial User Class II Wastewater Permit, dated February 7, 2005	San Francisco Municipal Code: Public Works Code, Article 4.1	Permit No. 05-0246 from the San Francisco Public Utilities Commission authorizes the Trust to discharge wastewater into the City and County of San Francisco sewerage system, provided that such wastewater discharges are performed in accordance with the conditions set forth in this permit. Discharge to the sewer of groundwater from dewatering must meet these requirements.	To be considered	
Department of Fish and Game's Lake and Streambed Alteration Program	Cal. Fish & Game Code §§ 1600-1607	These regulations require a state or local agency who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any stream or use materials from a streambed to notify the Dept. of Fish & Game before beginning the project. If Dept. of Fish & Game determines that the proposed project may substantially adversely affect existing fish or wildlife resources, the project proponent would need to obtain a Lake or Streambed Alteration Agreement from the Dept. of Fish & Game and the proposed project, unless it is otherwise exempt, would have to be reviewed in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).	To be considered	

[1] Locations for remote staging areas will be identified prior to remedial activities. Remote staging areas will have similar action- and chemical-specific ARARs and TBCs as Lendrum Court. Location-specific ARARs and TBCs may be more or less stringent, depending on the location of the staging area.

Table 3

COMPARISON OF REMOVAL ACTION ALTERNATIVES
Lendrum Court
Final Removal Action Work Plan
Presidio of San Francisco, California

Removal Alternatives	Description	Effectiveness	Implementability	Estimated Remediation Costs	Status
No Action	Remedial technologies would not be implemented under a No Action alternative.	Does not achieve remedial action objectives (RAOs) for chemicals of concern (COCs) in soil and debris above applicable cleanup levels.	Easily implemented	Negligible cost	Not retained
Excavation	Soil excavation as an approach to source removal eliminates the ongoing exposure pathways and threats to the environment by removing the COCs above the site-specific cleanup levels from the subsurface.	Complete removal of soil and debris is likely to achieve applicable cleanup levels. Long-term effectiveness is assured.	Difficult to implement due to relatively large volume of waste and limited site access. Existing buildings may have to be demolished causing residents to be displaced. Trees in the Historic Forest would be removed.	$8.31 MM	Not retained
Consolidation and Capping With Land Use Controls and Post-Remediation Monitoring	Debris and soil containing COCs above site-specific cleanup levels will be consolidated under planned cap area. Geotextile fabric or wire will be placed, then a minimum 1.5-foot thick engineered soil cap will be installed. Alternative will require post-remediation long-term monitoring to maintain the cover and insure remedy remains protective of human and ecologic health. Land use controls will be implemented.	Achieves remedial action objectives and would prevent direct contact with in-place soil and debris by human and ecological receptors. Effectiveness depends in part on cover design, nature of soil matrix of imported soil, presence of residual COCs, and future land use. Post-remediation O&M will be an integral component to verify the effectiveness of the cover.	Difficult to implement due to the presence of occupied residential buildings and Historic Forest. The site has limited access.	$1.96 MM	Retained

TABLE 4
COMPARATIVE ANALYSIS OF REMOVAL ALTERNATIVES
FINAL REMOVAL ACTION WORK PLAN
LENDRUM COURT

Alternative 1 No Action	Alternative 2 Excavation	Alternative 3 Consolidation, Capping with Land Use Controls and Post-Remediation Monitoring
DESCRIPTION OF ALTERNATIVE		
The site would be left in its current condition. No controls or actions for further protection of human health or the environment would be implemented for contaminants present at the site.	Human health would be protected by removing debris and soil containing COCs above cleanup levels.	Human health would be protected by covering soil and debris containing COCs above cleanup levels, and placing controls on site usage.
THRESHOLD CRITERIA		
1) Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)		
The No Action alternative is not anticipated to comply with ARARs.	Alternative is expected to comply with ARARs. Human and ecological receptors would be protected from potential exposure to COCs in soil and debris by removing soil and debris containing COCs above cleanup levels.	Alternative is expected to comply with ARARs. Human and ecological receptors would be protected from exposure to COCs in soil by placement of cover. The entire site would be used for residences in accordance with Presidio planning documents.
2) Overall protection of human health and the environment		
Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment by removing soil and debris containing COCs above cleanup levels. Human health risks would be reduced to less than $1x10^{-6}$ for carcinogens and a Hazard Index (HI) <1 for noncarcinogens.	Alternative is anticipated to be protective of human health and the environment by preventing exposure to impacted soil and debris containing COCs above cleanup levels.

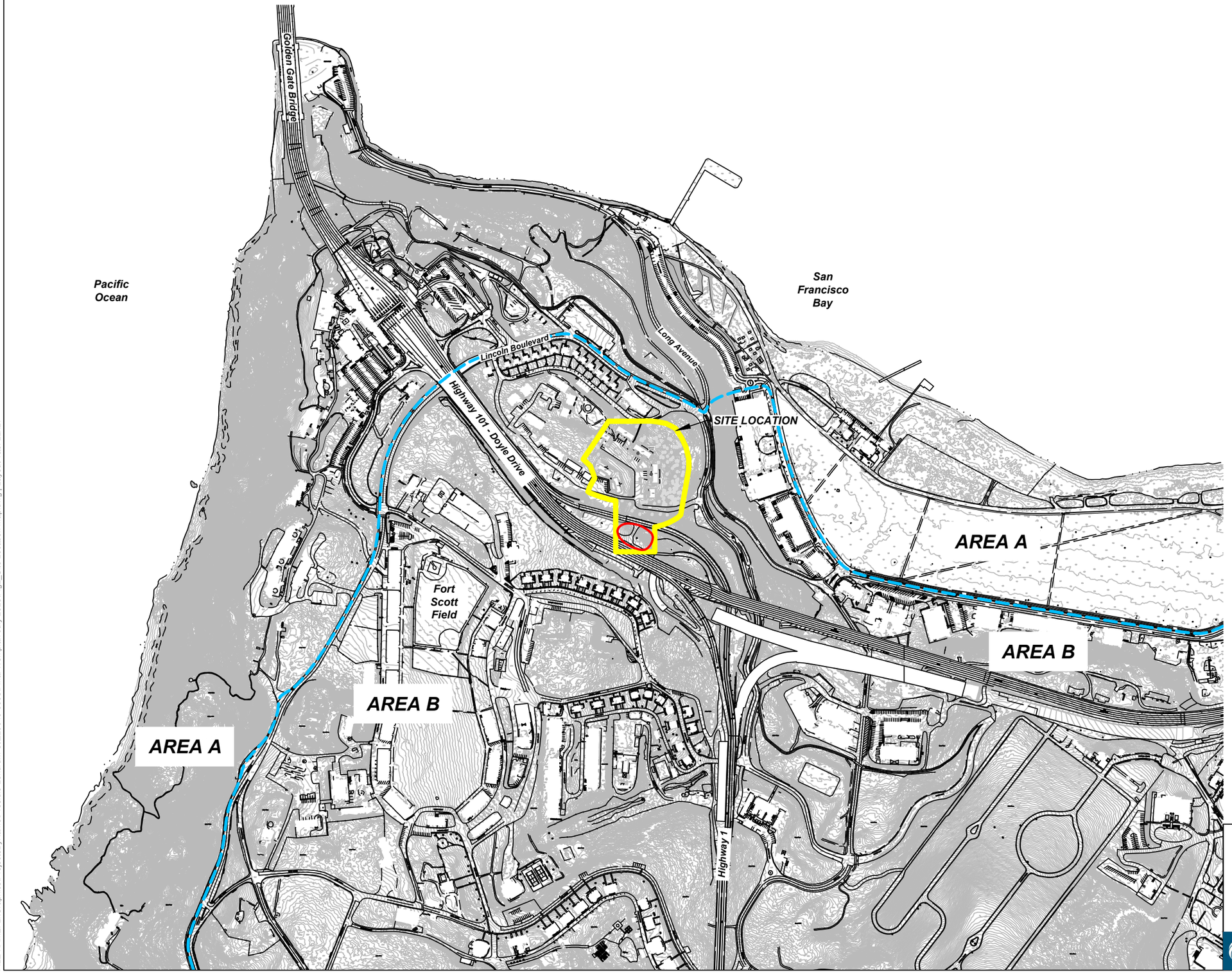
TABLE 4
COMPARATIVE ANALYSIS OF REMOVAL ALTERNATIVES
FINAL REMOVAL ACTION WORK PLAN
LENDRUM COURT

Alternative 1 **No Action**	**Alternative 2** **Excavation**	**Alternative 3** **Consolidation, Capping with Land Use Controls and Post-Remediation Monitoring**
BALANCING CRITERIA		
1) Long-term effectivness and permanence		
Alternative would not offer long-term protection for human receptors and ecological receptors from exposure to COCs in soil or provide permanence in remediating soil contamination.	Alternative would offer long-term protection for human and ecological receptors from exposure to COCs in soil and would provide permanence by removing debris and soil containing COCs above cleanup levels.	Alternative would offer long-term protection for human and ecological receptors from exposure to COCs in soil and would provide permanence by placing a cover over debris and soil containing COCs above cleanup levels. The cover would need to be maintained and monitored to assure long-term effectiveness and permanence.
2) Reduction of toxicity, mobility, or volume (TMV) through treatment		
Alternative would not reduce TMV of contaminated debris and soil at the site.	Alternative would not reduce TMV of debris and soil containing COCs above cleanup levels. The soil and debris would be excavated and hauled offsite to a disposal facility.	Alternative would not reduce TMV of debris and soil containing COCs above cleanup levels.
3) Short-term effectiveness		
Alternative is not anticipated to be effective in the short term at achieving remedial action objectives (RAOs), and would not pose any short-term disruptions to the community.	Alternative would be effective in the short term at achieving RAOs, and would pose short-term disruptions to the community during excavation and backfill. Risks to workers would be mitigated by following standard operating procedures and the State of California Health and Safety Code (HSC).	Alternative would be effective in the short term at achieving RAOs, and would pose short-term disruptions to the community during placement of the soil cover. Risks to workers would be mitigated by following standard operating procedures and the HSC.
4) Implementability		
Easy to implement as alternative does not require any actions to be taken.	This alternative would be difficult to implement as it requires excavation adjacent to residential buildings and there is limited access. The building windows would have to be sealed during earthmoving activities. Constant dust monitoring would need to be performed during earthmoving activities. Tenant parking would be affected during construction. The safety of the tenants coming and leaving their residences would be of utmost concern.	This alternative would be difficult to implement as it requires excavation adjacent to residential buildings and there is limited access. The building windows would have to be sealed during earthmoving activities. Constant dust monitoring would need to be performed during earthmoving activities. Tenant parking would be affected during construction. The safety of the tenants coming and leaving their residences would be of concern.
5) Cost		
Negligible cost.	HIGH COST Total Cost: $8.31 MM Capital Cost: O&M Cost: $0	HIGH COST Total Cost: $1.96 MM Capital Cost: O&M Cost: $492,710

TABLE 4
COMPARATIVE ANALYSIS OF REMOVAL ALTERNATIVES
FINAL REMOVAL ACTION WORK PLAN
LENDRUM COURT

Alternative 1 No Action	Alternative 2 Excavation	Alternative 3 Consolidation, Capping with Land Use Controls and Post-Remediation Monitoring
MODIFYING CRITERIA		
1) State acceptance		
This alternative is not acceptable to the regulatory agencies.	This alternative is acceptable to the regulatory agencies.	This alternative is acceptable to the regulatory agencies.
2) Community acceptance		
Based on the comments received during the public comment period, this alternative is not favored by the Trust or the community	Based on the comments received during the public comment period, this alternative is not favored by the Trust or the community.	Based on the comments received during the public comment period, this alternative is favored by the Trust and the community.
ADDITIONAL STATE CRITERIA		
State of California Health and Safety Code Criteria		
The alternative does not address the State of California HSC criteria regarding the human health and safety and ecological risks posed by contamination at the site, and the effect of contamination on future uses of the site.	The alternative would address the State of California HSC criteria regarding the human health and safety and ecological risks posed by contamination at the site, and the effect of contamination on future uses of the site, because it would remove soil contamination and debris from the site and risks to workers would be mitigated by following standard operating procedures and the HSC.	The alternative would address the State of California HSC criteria regarding the human health and safety and ecological risks posed by contamination at the site, and the effect of contamination on future uses of the site, because it would cover soil and debris containing COCs above cleanup levels. Risks to workers would be mitigated by following standard operating procedures and the HSC. The effect of contamination on future uses of the site would be addressed by land use controls and post remediation O&M of the cover.
OTHER CRITERIA		
Alternative/Green Energy and Resource Recovery Assessment		
This alternative would not make use of or require consideration of alternative/green energy resources, meeting the intent of green energy initiatives, or promoting resource recovery.	Alternative would promote resource recovery by restoration of the Historic Forest. The remedy would include removal of a large quantity of soil that would deplete energy resources by using earthmoving equipmen for excavation and trucks for transport of soil and debris for offsite disposal.	Alternative would promote resource recovery by restoration of the Historic Forest. Import of soil for cover and placement of cover would deplete energy resources by using earthmoving equipment for cover placement and trucks for transport of cover soil.
SUMMARY OF EVALUATION CRITERIA		
Alternative is not recommended.	Alternative is not recommended.	Alternative is selected as the preferred remedy.

FIGURES



LEGEND

- Lendrum Court Area
- Approximate Former Incinerator Area
- Area A/B Boundary

N

SCALE (FEET)

0 50 100

SITE LOCATION MAP

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 1**

FILE NAME: L:\Graphics\ProjectsByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig1_ Site Location Map.dwg | Layout Tab: 11x17

LEGEND

- Approximate extent of debris, queried where uncertain
  NOTE: Extent of debris outline from EKI, Inc. (April 2015) Remedial Investigation Summary Report
- Pothole (sample point)
- Trench
- Contour interval (145)
- Approximate Site Boundary

N

SCALE (FEET)

0 70 140

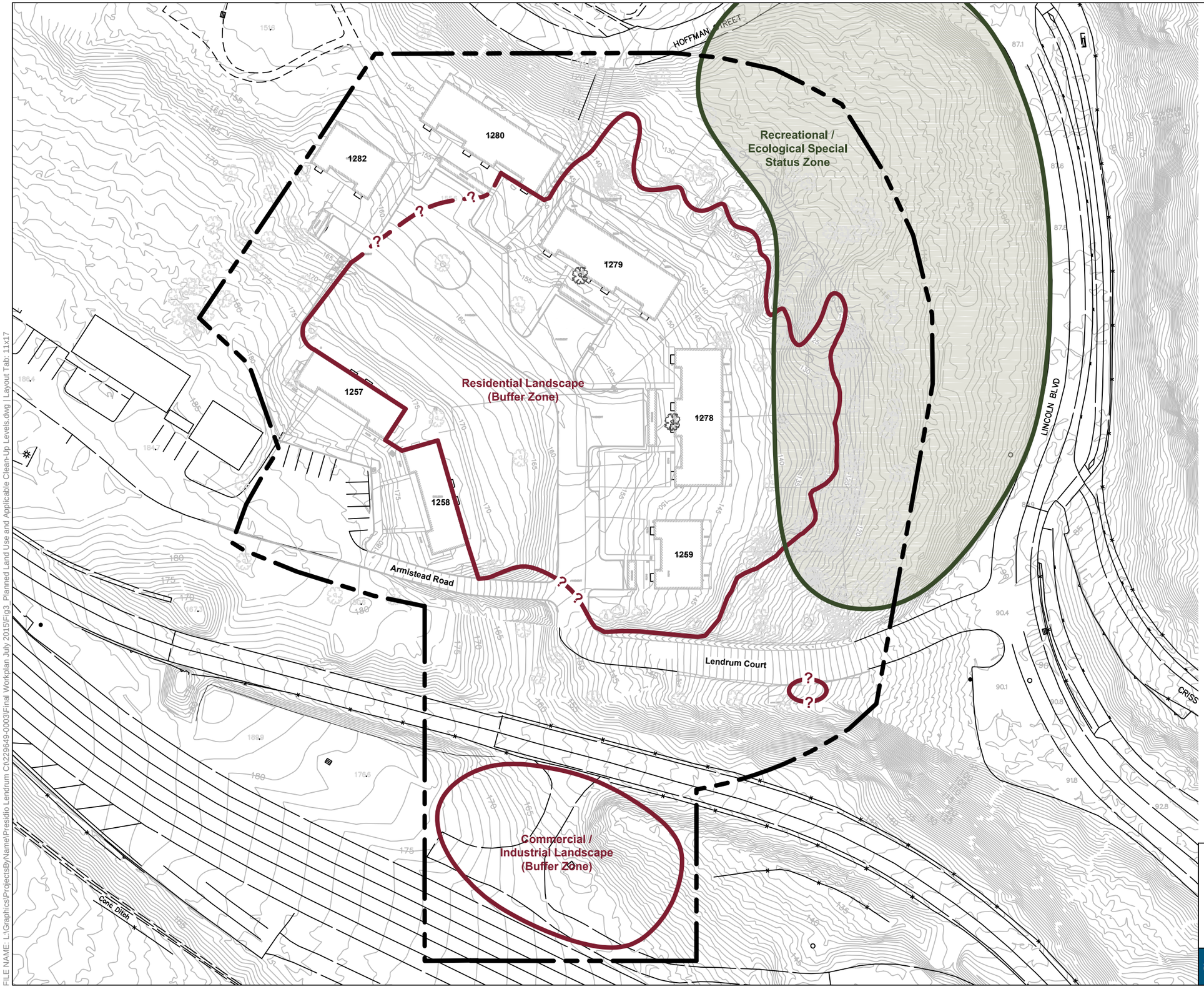
SOURCE: Base plan by Erler & Kalinowski, Inc., November 2014.

EXTENT OF DEBRIS

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 2**

FILE NAME: L:\Graphics\Projects\ByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig2 Extent of Debris.dwg | Layout Tab: 11x17



LEGEND

- Approximate extent of debris, queried where uncertain
  NOTE: Extent of debris outline from EKI, Inc. (April 2015) Remedial Investigation Summary Report.
- Contour interval
- Approximate Site Boundary

N

SCALE (FEET)

0 70 140

SOURCE: Base plan by Erler & Kalinowski, Inc., November 2014.

PLANNED LAND USE AND APPLICABLE CLEAN-UP LEVELS

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 3**

FILE NAME: L:\Graphics\Projects\ByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig3_Planned Land Use and Applicable Clean-Up Levels.dwg | Layout Tab: 11x17

Source	Transport Mechanism	Potential Exposure Medium	Potential Exposure Pathway	Potential Human Health Exposed Populations		
				Residential	Recreational	Commercial/ Industrial
Chemicals in Soil	Volatilization or Particulates	Air	Inhalation	Not Significant	Not Significant	Not Significant
	Leaching	Groundwater	Ingestion	Incomplete	Incomplete	Incomplete
	Storm Water Runoff	Surface Water	Ingestion of Water, Fish, or Organisms	Incomplete	Incomplete	Incomplete
			Dermal Contact	Incomplete	Incomplete	Incomplete
		Soil	Dermal Contact	Complete	Complete	Complete
			Ingestion	Complete	Complete	Complete
	Plant Uptake	Homegrown Produce	Ingestion	Not Significant	Not Significant	Incomplete

Complete	Pathway complete or potentially complete. Pathway has been quantitatively evaluated.
Not Significant	Pathway complete or potentially complete. Exposure is not considered significant. Pathway has not been evaluated quantitatively.
Incomplete	Pathway is not considered complete.

POTENTIAL EXPOSURE PATHWAYS FOR HUMAN HEALTH
Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 4**

FILE NAME: L:\Graphics\ProjectsByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig4_Potential Exposure Pathways_Human Health.dwg | Layout Tab: 11x17

Source	Transport Mechanism	Potential Exposure Medium	Potential Exposure Pathway	Potential Exposed Ecological Receptors of Terrestrial Habitats							
				Plants	Soil Invertebrates	Insectivorous Birds	Herbivorous Birds	Carnivorous Birds	Omnivorous Mammal	Herbivorous Mammal	Carnivorous Mammal
Chemicals in Soil	Volatilization or Particulates	Air	Inhalation	Incomplete	Incomplete	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
			Dermal Contact	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete
	Plant Uptake	Plant Tissue	Ingestion	Incomplete	Complete	Incomplete	Complete	Incomplete	Complete	Complete	Incomplete
	Animal Uptake	Animal Tissue	Ingestion	Incomplete	Complete	Complete	Incomplete	Complete	Complete	Incomplete	Complete
			Ingestion	Incomplete	Complete	Complete	Complete	Complete	Complete	Complete	Complete

Complete	Pathway complete or potentially complete. Pathway has been quantitatively evaluated.
Not Significant	Pathway complete or potentially complete. Exposure is not considered significant. Pathway has not been evaluated quantitatively.
Incomplete	Pathway is not considered complete.

Footnotes:

[a] The potential ecological exposure pathways for terrestrial habitats are based on Figure 5-1 from Presidio-Wide Cleanup Document (EKI, 2002 with updates through 2013).

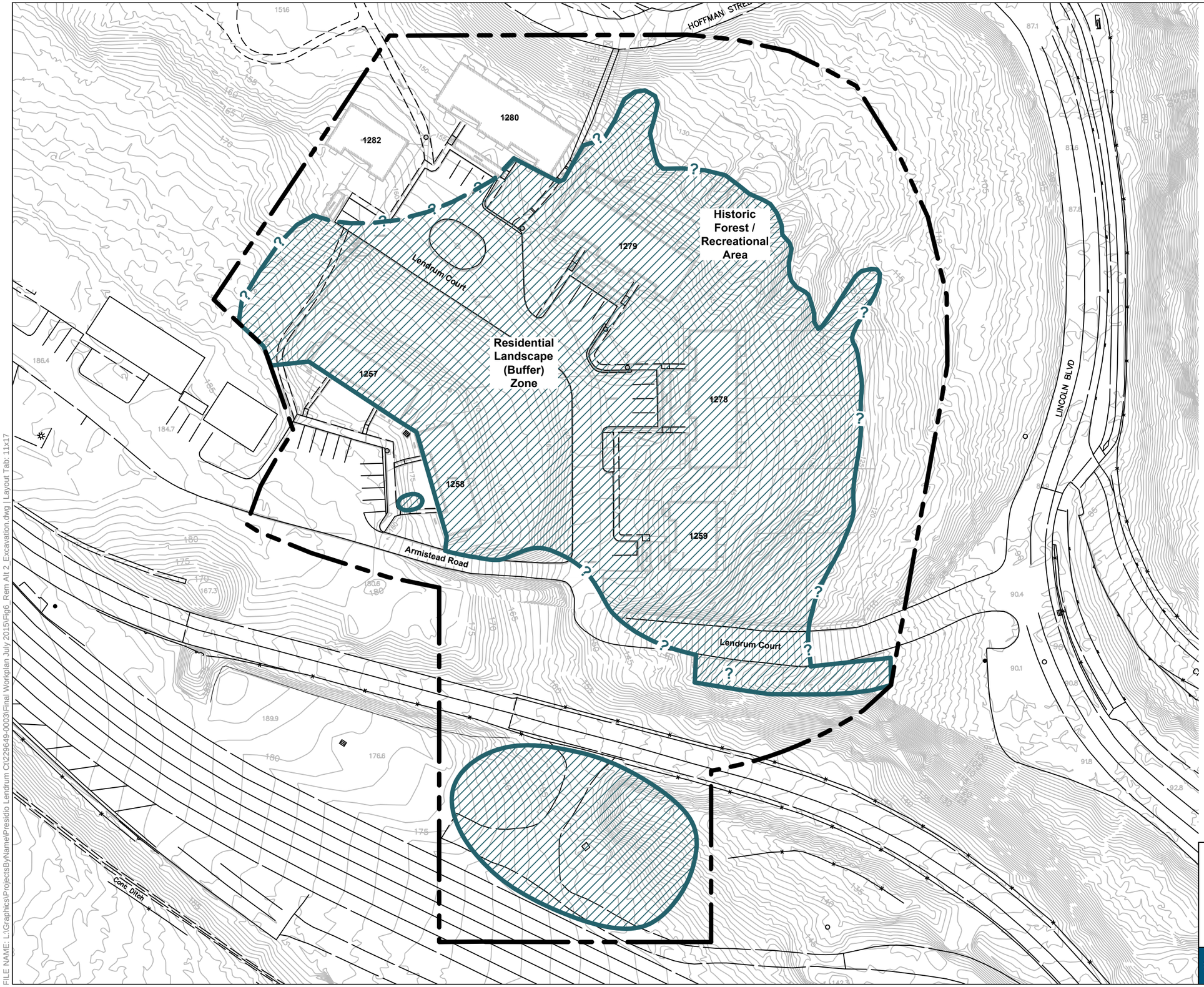
References:

Erler & Kalinowski, Inc. (*EKI) 2002 . Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water.* October with updates through 2013.

POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS FOR TERRESTRIAL HABITATS

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 5**



LEGEND

Approximate extent of soil removal to obtain clean closure, queried where uncertain

145 Contour interval

Approximate Site Boundary

N

SCALE (FEET)

0 70 140

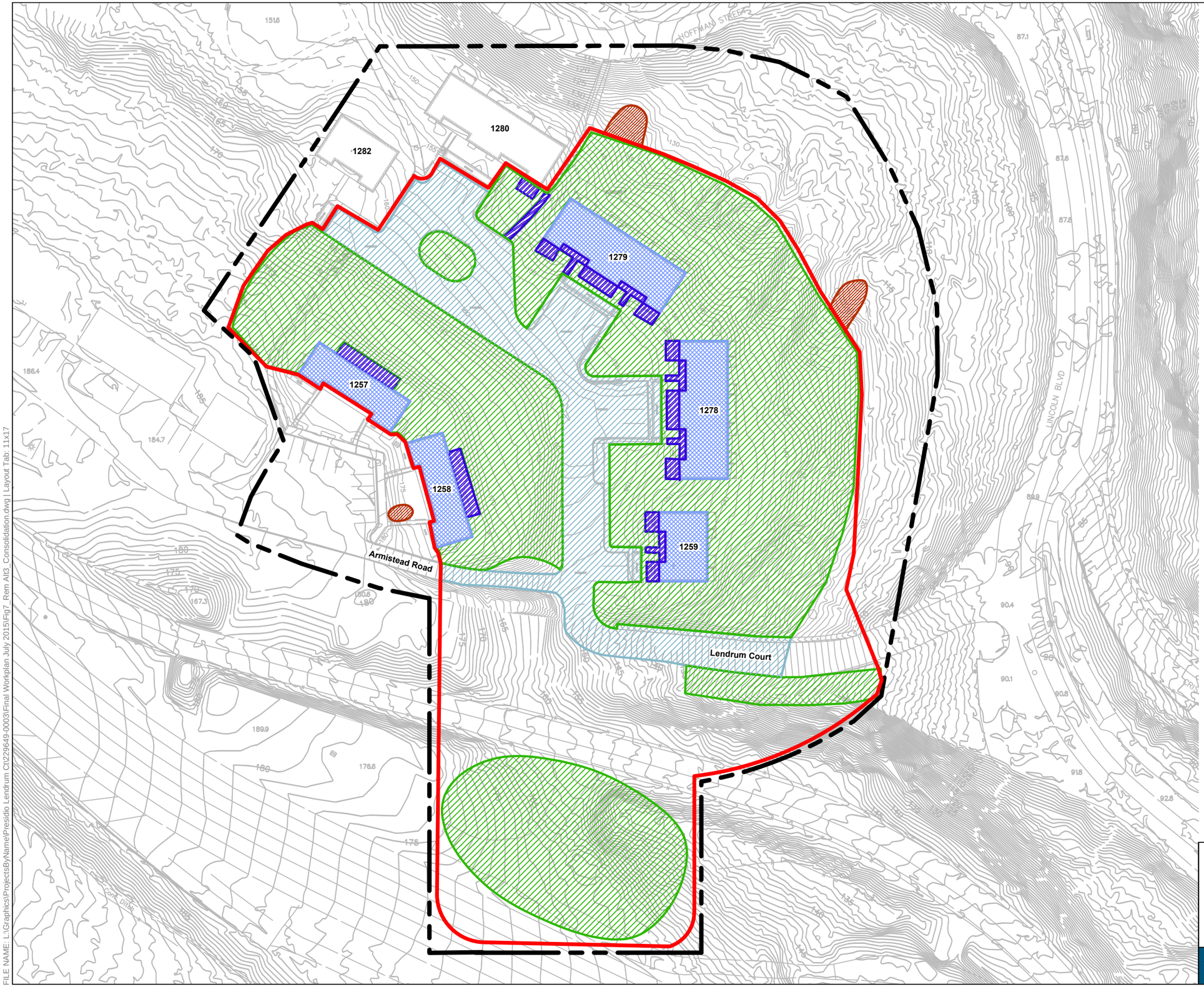
SOURCE: Base plan by Erler & Kalinowski, Inc., November 2014.

REMOVAL ALTERNATIVE 2: EXCAVATION

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 6**

FILE NAME: L:\Graphics\Projects\ByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig6_Rem Alt 2_Excavation.dwg | Layout Tab: 11x17



LEGEND

- Approximate limits of cap in landscaped areas
- Areas of building that serve as cap
- Areas of asphalt and pavement that serve as cap
- Approximate limits of landscape paving (patios/walkways) that serve as a cap
- Areas to be consolidated and clean closed
- 145 Contour level
- Approximate Proposed LUC Boundary
- Approximate Site Boundary

NOTES:

Areas beneath pavement not mapped by EKI (2015) as containing debris are consequently assumed to contain debris for purposes of establishing a land use control (LUC) boundary.

N

SCALE (FEET)

0 50 100

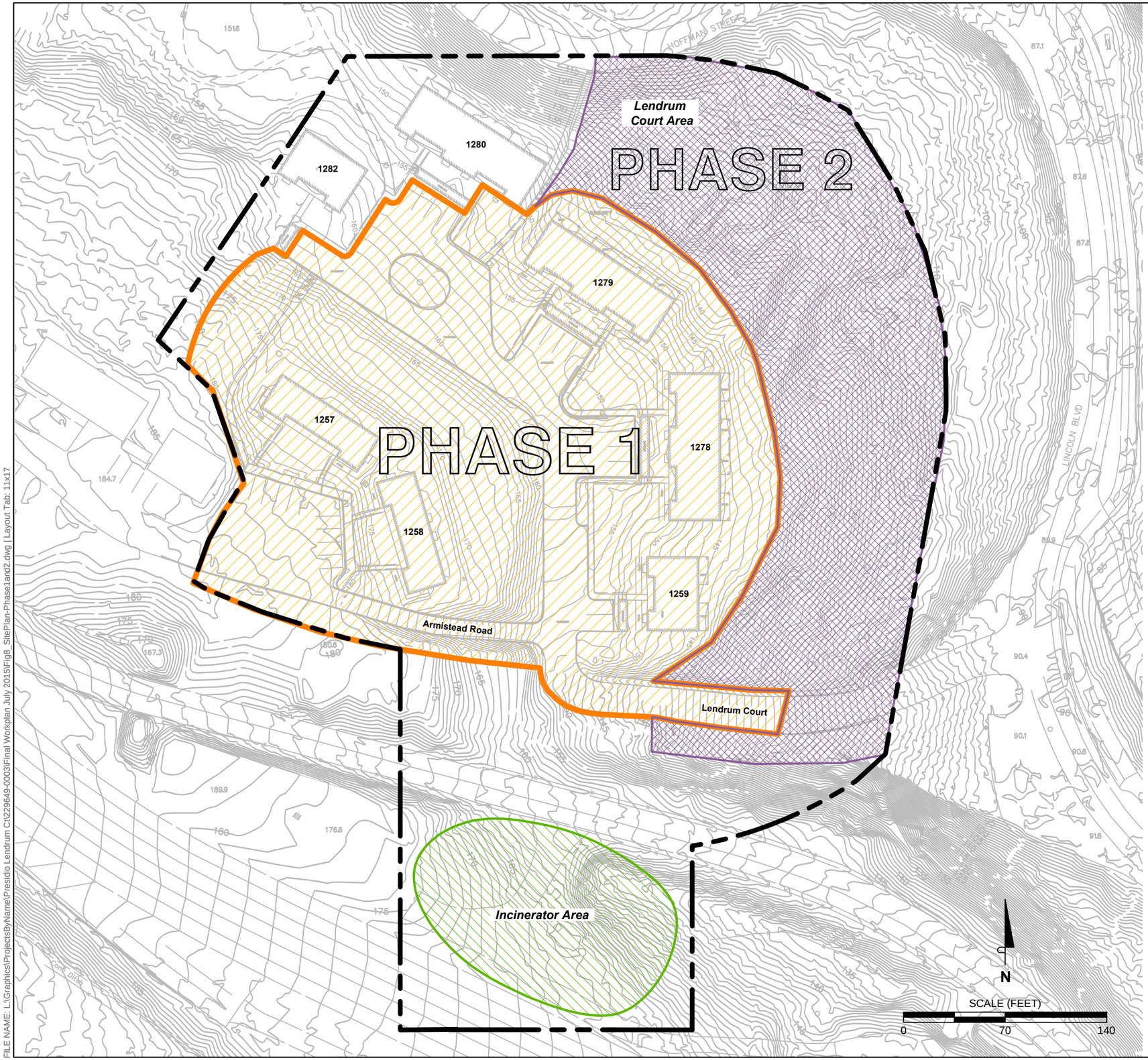
SOURCE: Base plan by Erler & Kalinowski, Inc., November 2014.

REMOVAL ALTERNATIVE 3: CONSOLIDATION AND CAPPING

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 7**

FILE NAME: L:\Graphics\ProjectsByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig7_Rem Alt3_Consolidation.dwg | Layout Tab: 11x17



LEGEND

- Phase 1 remedial action area (approximate)
- Phase 2 remedial action area (approximate)
- Protective in Current Configuration
- 145 Contour level
- Approximate Site Boundary

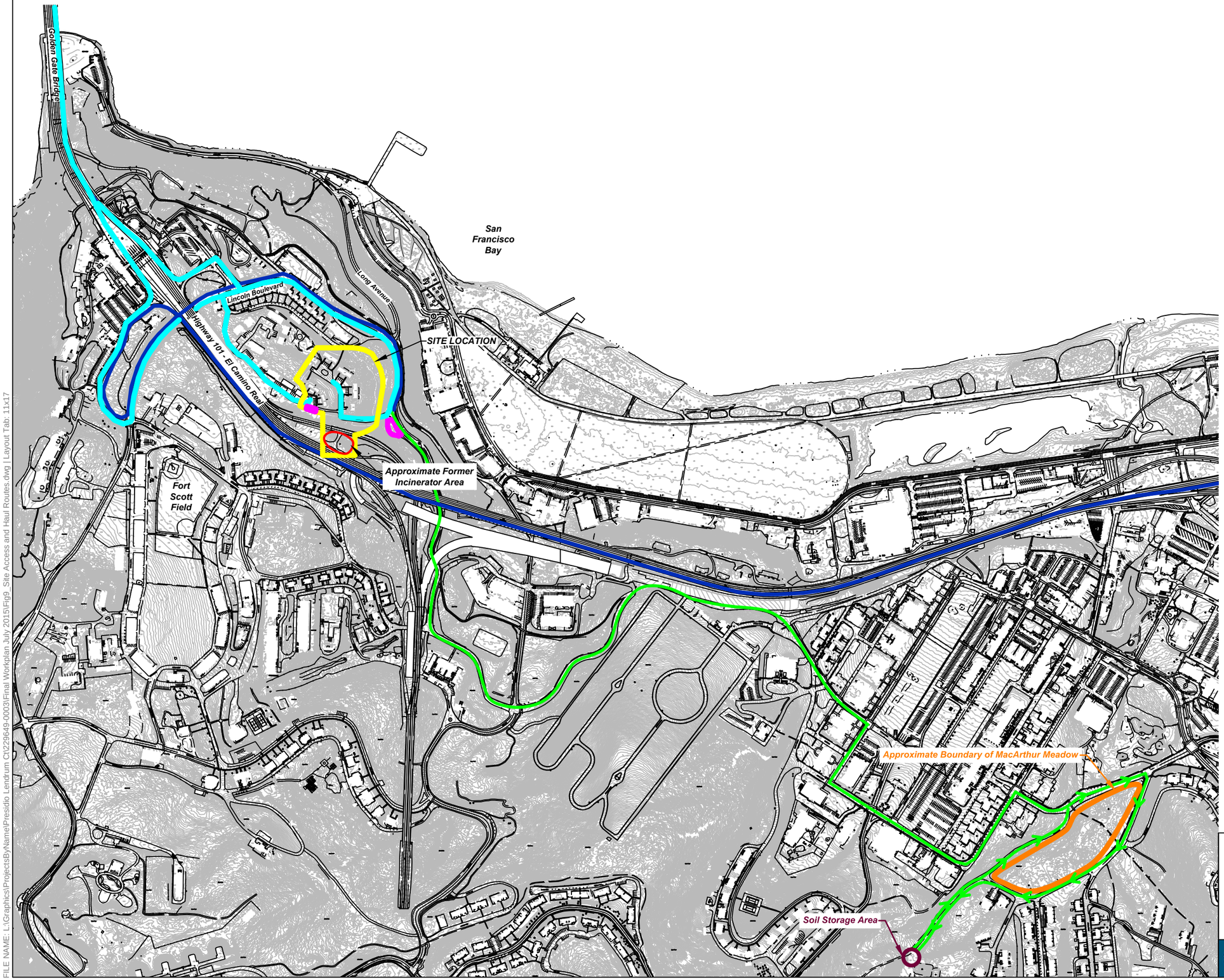
NOTES:

Areas beneath pavement not mapped by EKI (2015) as containing debris are consequently assumed to contain debris for purposes of establishing a land use control (LUC) boundary.

SITE PLAN SHOWING
PHASE 1 & 2 AREAS
Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 8**

FILE NAME: L:\Graphics\ProjectsByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig8_SitePlan-Phase1and2.dwg | Layout Tab: 11x17



LEGEND

- Proposed haul route for soil imported from MacArthur Meadow
- Proposed truck haul route for soil disposed of offsite
- Proposed staging area
- Proposed site access routes

N

SCALE (FEET)

0 600 1,200

SITE ACCESS AND HAUL ROUTES

Lendrum Court and Incinerator Area
Final Removal Action Work Plan
July 2015
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 9**

FILE NAME: L:\Graphics\Projects\ByName\Presidio Lendrum Ct\229649-0003\Final Workplan July 2015\Fig9_Site Access and Haul Routes.dwg | Layout Tab: 11x17

APPENDIX A

INCINERATOR AREA INFORMATION

505 Sansome Street
Suite 1600
San Francisco, CA 94111

415.434.2600 PHONE
415.434.2321 FAX

www.trcsolutions.com

March 2, 2015

Mr. David Yam
Caltrans
111 Grand Avenue
Oakland, California 94612

RE: Transmittal of Soil Stockpile SP-202 and SP-203 Waste Profile Results
Doyle Drive Hook-Ramp Area
Presidio of San Francisco, California

Dear Mr. Yam:

The following transmits the results of chemical analyses of soil samples collected from Stockpile 202 (SP-202) and Stockpile 203 (SP-203) by TRC Solutions, Inc. (TRC). The stockpiles contained soil generated during excavation of the hook-ramp area, in the western portion of the Doyle Drive Replacement Project in San Francisco, California. TRC collected representative samples from the stockpiles on February 13, 2015. The samples were analyzed by TestAmerica, Inc. The purpose of the sampling and analysis was to profile the soil for off-site disposal, as described below.

BACKGROUND

During excavation of the hook-ramp area, the Doyle Drive contractor, Flatiron-Kiewit Joint Venture (FKJV), exposed the remains of an Army-era incinerator. In addition to brick and debris, a layer of ash was present. The approximate location of the former incinerator and assocated waste debris as mapped by FKJV is shown on the attached figure. Some of this waste debris was excavated and placed into SP-202 and potentially SP-203. The purpose of the sampling and analysis described herein is to characterize the two stockpiles for disposal purposes.

Soil Sampling

SP-202 and SP-203 were visually estimated to contain about 1,500 cubic yards of soil each. TRC divided each stockpile into six approximately 250-yard sections, and collected 4-point samples from each section, as shown on the attached figure. Samples were identified as follows:

SP-202-1 (A, B, C, D); SP-202-2 (A, B, C, D); SP-202-3 (A, B, C, D); SP-202-4 (A, B, C, D); SP-202-5 (A, B, C, D); and SP-202-6 (A, B, C, D).

SP-203-1 (A, B, C, D); SP-203-2 (A, B, C, D); SP-203-3 (A, B, C, D); SP-203-4 (A, B, C, D); SP-203-5 (A, B, C, D); and SP-203-6 (A, B, C, D).

The samples were collected in 4-ounce glass jars, placed in an ice-filled cooler, and transported to TestAmerica, a California state-certified analytical laboratory.

Soils were visually classified in the field. Soils in both stockpiles were primarily sandy-silt with gravel derived from serpentinite rock. Gravel-sized clasts of serpentite bedrock were observed in the stockpiles. SP-203 was light brown and no significant occurrences of debris were observed. SP-202 was largely light brown, with the exception of SP-202-4, which was reddish brown and appeared to contain crushed or pulverized red brick. Debris such as red brick, glass, metal pipes filled with concrete, and miscellaneous metal pieces were observed throughout SP-202. Photos and field notes are included in Appendix A.

Laboratory Analysis

The 4-point samples were composited in the laboratory to create a total of 12 samples, one 4-point composite from each section. The samples were initially analyzed for the following:

- 17 California Assessment Manual (CAM) metals (EPA Test Method 6010/7000)
- Total petroleum hydrocarbons in the diesel and motor oil ranges (EPA Method 8015B/8021)

Based on the results for total lead, select samples were then analyzed for soluble lead using either:

- Waste Extraction Test (WET) procedure to determine whether the soil exceeded criteria as a California hazardous waste
- Toxicity Characteristic Leaching Procedure (TCLP) to determine wheter the soil exceeded criteria for hazardous waste under the Resource Conservation and Recovery Act (RCRA)

The laboratory results are summarized on the attached table. Copies of laboratory data sheets are included in Appendix B.

At SP-202, two sample locations contained lead at concentrations exceeding the Total Threshold Limit Concentration (TTLC); a TCLP was performed on the sample with the highest concentration of lead (SP-202-4, 1,500 mg/kg). The other four SP-202 samples (SP-202-1, 2, 3, and 6) contained lead at concentrations that were less than 1,000 mg/kg, but were significantly elevated compared to Presidio Trust reuse criteria (Presidio Trust, November 25, 2013) and exceeded 50 mg/kg (10 times the Soluble Threshold Limit Concentration (STLC) of 5mg/L); therefore a WET test was performed for lead on all four samples.

At SP-203, the samples contained lead at concentrations ranging from 83 to 110 mg/kg. Although these concentrations were within Presidio Trust reuse criteria (Presidio Trust, November 25, 2013) for specific land uses, they exceeded 50 mg/kg (10 times the STLC of 5 mg/L). A WET test was performed for lead on the three samples with the highest lead concentrations (SP-203-3, 4, and 5) to characterize the material for disposal.

All the samples contained chromium and nickel at concentrations within ranges characteristic of serpentinite soil. To characterize the material for disposal, WET tests for chromium and nickel were performed on SP-202-1 and SP-203-5, which had the highest concentrations of chromium and nickel, respectively, for each stockpile.

RESULTS AND CONCLUSIONS

Stockpile 202 (SP-202)

Lead was detected at levels exceeding Presidio Trust reuse criteria in all samples. Laboratory analyses of composite sample SP-202-4 and SP-202-5 yielded total lead concentrations exceeding the TTLC for hazardous waste.

The TCLP test for lead was performed on SP-202-4, which had the highest total lead concentration (1,500 mg/kg). The TCLP result of 2.0 mg/L is below the TCLP limit of 5.0 mg/L. The WET test results for lead all exceed the STLC limit of 5.0 mg/L for California hazardous waste.

The STLC results for chromium and nickel on SP-202-1 were 0.87 mg/L for chromium and 4.8 mg/L for nickel, which is below their respective STLC limits of 5.0 mg/L and 20.0 mg/L.

TPH diesel and motor oil was detected above unrestricted use criteria but below reuse criteria for terrestrial ecologic receptors and protection of human health.

Based on the lead concentrations detected and STLC test results, all soil from SP-202 should be disposed of as non-RCRA hazardous waste at a state-certified facility.

Stockpile 203 (SP-203)

Lead was detected at concentrations above unrestricted use criteria (80 mg/kg) but below reuse criteria for ecologic special status (160 mg/kg). The material could therefore be reused within the Doyle Drive Replacement Project as outlined in Part 1 of the Supplemental Soil Management Requirements (SSMRs) for the Presidio Parkway Project (Presidio Trust, November 25, 2013).

Total chromium and nickel were detected at concentrations characteristic of serpentinite-derived soils. Concentrations of arsenic and antimony additionally indicate the presence of Colma formation soils within the stockpiled soils. The results for antimony were consistently, but only slightly, elevated above the background concentrations developed for Colma soils by the Presidio Trust (EKI, 2002). The metals were analyzed by EPA Method 6010. The Trust has observed false positives for antimony, among other metals, using this analytical method in the past. Given the lack of evidence of contamination by other metals, and noting that antimony was consistently and only slightly elevated, the results are considered suspect. Even so, the soil could be reused as outlined in Part 1 of the SSMRs. To confirm whether antimony is truly elevated the samples should be rerun using EPA Method 6020.

TPH diesel and motor oil was detected above unrestricted use criteria but below reuse criteria for terrestrial ecologic receptors and protection of human health.

In case the material is not reused, WET tests were performed on the three samples with the highest total lead concentration for waste classification purposes. WET test results exceeded the STLC value (5.0 mg/L) in SP-203-4 (64 mg/L) but not in SP-203-3 and SP-203-5 (both 3.4 mg/L). Soils associated with the SP-203-4 location would therefore be considered a hazardous waste. The remaing soil would be considered class 2 waste. Note that the disposal facility may request WET analysis for lead at SP-203-1, SP-203-2, and SP-203-6 to confirm the soil is class 2. The nickel and chromium WET test concentrations did not exceeded their respective STLC values.

LIMITATIONS

This report was prepared to assist Caltrans in evaluating the quality of soil contained in SP-202 and SP-203. The accuracy and reliability of geochemical or hydrochemical studies are a reflection of the number and type of samples collected and extent of the analyses conducted, and are thus inherently limited and dependent upon the resources expended. Although the sampling has been performed in accordance with generally accepted environmental principles, the recommendations presented could change if additional information becomes available.

Thank you for choosing us to assist you with this project. If you have any questions, please call and we will be glad to discuss them with you.

Sincerely,

TRC SOLUTIONS, INC.

Katy Houston, P.E.
Senior Staff Engineer

Eileen Fanelli
Principal

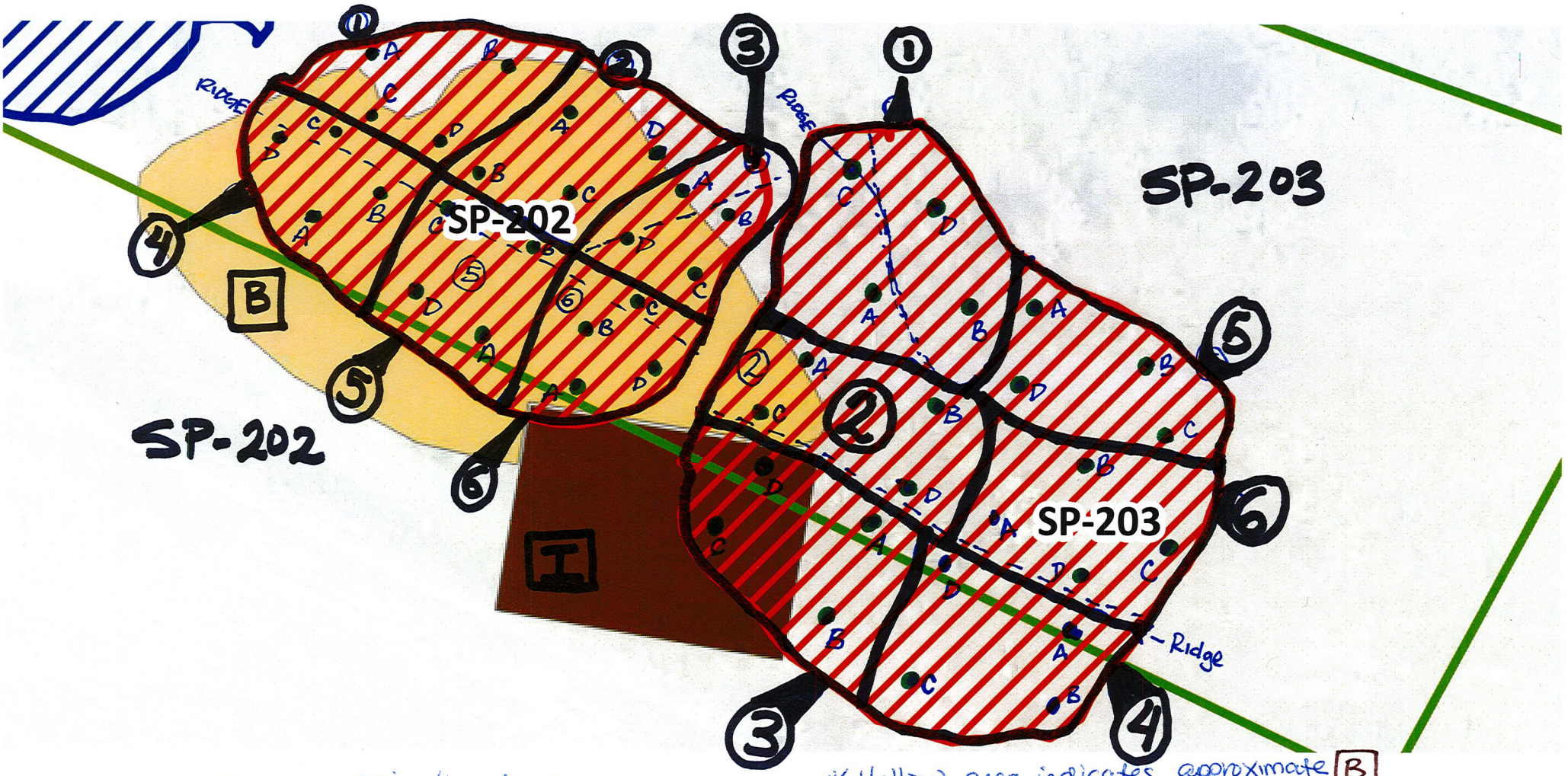
Cc: Mark Helmbrecht, Presidio Trust
Nina Larssen, Presidio Trust

Enclosures:
Figure – Sampling Plan Sketch
Table – Doyle Drive Soil Stockpile Analytical Results
Appendix A – Field Documentation and Photographs
Appendix B – Laboratory Analytical Report

References:
EKI (2002) Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, as amended.
Presidio Trust (2013) Draft Final Part 1: Supplemental Soil Management Requirements for the Presidio Parkway Project Governing Remediation Sites, Hazardous Materials, and CDSM Materials.

FIGURE

Doyle Dr - Hook Ramp Project #230644.1
Stockpile Sampling
2/13/15 TRC - KH



Section outline/boundary

---- Indicates Ridgeline of piled soil

● Sample point location

* Yellow area indicates approximate extent of burn debris. B
* Brown area indicates approximate extent of incinerator. I
+ Base figure created as part of initial stockpile sampling performed by Terraphase Engineering for Flatiron Kiewit Joint Venture (FKJV). February 10, 2015.

TABLE

Doyle Drive Soil Stockpile Analytical Results
Presidio of San Francisco
San Francisco, California

Sample Identification	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium STLC	Cobalt	Copper	Lead	Lead STLC	Mercury	Molybdenum	Nickel	Nickel STLC	Selenium	Silver	Thallium	Vanadium	Zinc	TPH-d	TPH-mo
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SP-202-1 (A,B,C,D)	2/13/2015	7.5	6.2	360	ND<0.43	0.85	550	0.72	49	65	920	48	0.24	ND<2.1	820	4.8	ND<4.3	ND<1.1	ND<2.1	53	380	63	260
SP-202-2 (A,B,C,D)	2/13/2015	5.2	5.4	190	ND<0.41	ND<0.52	360	NA	39	43	370	21	0.11	ND<2.1	660	NA	ND<4.1	ND<1.0	ND<2.1	43	250	41	170
SP-202-3 (A,B,C,D)	2/13/2015	7.7	8	180	ND<0.39	1.2	380	NA	42	51	460	18	1.7	ND<2.0	710	NA	ND<3.9	ND<0.99	ND<2.0	47	590	34	100
SP-202-4 (A,B,C,D)	2/13/2015	7.2	11	890	0.71	3.2	170	NA	21	180	1,500	2 (TCLP)	0.49	ND<2.4	260	NA	ND<4.8	2	ND<2.4	85	1,200	82	290
SP-202-5 (A,B,C,D)	2/13/2015	4.7	9.2	470	ND<0.31	1.4	190	NA	21	440	1,200	NA	0.19	ND<1.6	310	NA	ND<3.1	1.2	ND<1.6	46	1,200	65	260
SP-202-6 (A,B,C,D)	2/13/2015	5.7	6.6	280	ND<0.28	0.87	390	NA	34	82	550	29	0.14	ND<1.4	580	NA	ND<2.8	ND<0.71	ND<1.4	52	430	59	320
SP-203-1 (A,B,C,D)	2/13/2015	9.1	4.8	71	ND<0.38	ND<0.48	720	NA	72	20	85	NA	0.052	ND<1.9	1,400	NA	ND<3.8	ND<0.95	ND<1.9	42	66	30	100
SP-203-2 (A,B,C,D)	2/13/2015	7.7	4.9	87	ND<0.41	ND<0.51	630	NA	68	24	84	NA	0.068	ND<2.0	1,300	NA	ND<4.1	ND<1.0	ND<2.0	42	77	85	320
SP-203-3 (A,B,C,D)	2/13/2015	9.2	5.2	90	ND<0.41	ND<0.51	720	NA	67	24	90	3.4	0.074	ND<2.1	1,300	NA	ND<4.1	ND<1.0	ND<2.1	47	85	96	350
SP-203-4 (A,B,C,D)	2/13/2015	6.9	6.6	110	ND<0.39	ND<0.48	570	NA	60	28	110	64	0.058	ND<1.9	970	NA	ND<3.9	ND<0.97	ND<1.9	57	92	110	470
SP-203-5 (A,B,C,D)	2/13/2015	12	5.4	78	ND<0.35	ND<0.44	950	1	82	22	92	3.4	0.052	ND<1.7	1,600	10	ND<3.5	ND<0.87	ND<1.7	45	70	30	110
SP-203-6 (A,B,C,D)	2/13/2015	10	5.4	87	ND<0.34	ND<0.42	830	NA	58	24	83	NA	0.058	ND<1.7	890	NA	ND<3.4	ND<0.84	ND<1.7	48	90	80	440

Notes:
mg/L = milligrams per liter
mg/kg = milligrams per kilogram
ND< = Not detected above the laboratory reporting limit
NA = Not Analyzed

APPENDIX A – FIELD DOCUMENTATION AND PHOTOGRAPHS

FIELD ACTIVITY REPORT

Project Name: Doyle Dr – Hook Ramp SP (Presidio)	Date: 2/13/15
Project Location: San Francisco, CA	Project Number: 230644.1
Personnel: K Houston, G Drosky	Page: 1 of 1
Field Activity Subject: Composite sampling for disposal of SP-202 and SP-203 and visual soil characterization.	

Soil Area	Description of Soil
SP-202-1	GM/SM, gravelly-sandy-silt, light brown except for SP-202-4 which was reddish brown and appeared to contain crushed or pulverized red brick. Debris such as red brick, glass, metal pipes filled with concrete and miscellaneous metal pieces were observed throughout SP-202. Metal pipe pieces were visible at SP-202-2 and SP-202-5. Serpentine rock observed at bottom of piles.
SP-202-2	
SP-202-3	
SP-202-4	
SP-202-5	
SP-202-6	
SP-203-1	GM/SM, sandy-silt with some gravel, light brown, moist in areas from condensation and recent rainfall. The soils in SP-203 appeared generally similar throughout the pile. Some areas had more gravel than other. No significant occurrences of debris were observed in SP-203. Serpentine rock observed at bottom on pile near SP-203-3 and -4.
SP-203-2	
SP-203-3	
SP-203-4	
SP-203-5	
SP-203-6	
	No significant indication of layering was observed.

TRC
101 2nd Street, Suite 300
San Francisco, California 94105
(415) 644-3000 FAX (415) 541-9378

SITE PHOTOGRAPHS

Doyle Drive Hook Ramp	Presidio San Francisco, CA	**Project No.:** 230644.1

Photo No.	**Date**
1	2/13/15

Description
View of northeast side of SP-203.

Photo No.	**Date**
2	2/13/15

Description
View of the south end (SP-203-4) of SP-203.

SITE PHOTOGRAPHS

Doyle Drive Hook Ramp	Presidio San Francisco, CA	**Project No.:** 230644.1

Photo No.	**Date**
3	2/13/15

Description
Northwest side of SP-202 (SP-202-4)

Photo No.	**Date**
4	6/20/14

Description
View of north side of SP-202.

APPENDIX B –LABORATORY ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-63002-1
Client Project/Site: Doyle Drive-Presidio Trust

For:
TRC Solutions, Inc.
101 2nd street
Suite 300
San Francisco, California 94105

Attn: Justin Hanzel-Durbin

Authorized for release by:
2/17/2015 7:09:54 PM
Micah Smith, Project Manager II
(925)484-1919
micah.smith@testamericainc.com

Designee for

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-63002-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-63002-1

Comments
No additional comments.

Receipt
The samples were received on 2/13/2015 5:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 6.2º C and 6.5º C.

Except:

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The last sample on the COC is the same as the previous sample name. SP-203-5. The last one should be SP-203-6, which is what the containers read.

Metals
Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for prep batch 175951 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 6010B: The following sample(s) was diluted due to the abundance of non-target analytes: SP-202-1(A.B.C.D) (720-63002-5), SP-202-2(A,B,C,D) (720-63002-10), SP-202-3(A,B,C,D) (720-63002-15), SP-202-4(A,B,C,D) (720-63002-20), SP-202-5(A,B,C,D) (720-63002-45), SP-202-6(A,B,C,D) (720-63002-50), SP-203-1(A,B,C,D) (720-63002-25), SP-203-2(A,B,C,D) (720-63002-30), SP-203-3(A,B,C,D) (720-63002-35), SP-203-4(A,B,C,D) (720-63002-40), SP-203-5(A,B,C,D) (720-63002-55), SP-203-5(A,B,C,D) (720-63002-60). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-1(A.B.C.D) — Lab Sample ID: 720-63002-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	7.5		2.1		mg/Kg	4	☼	6010B	Total/NA
Arsenic	6.2		4.3		mg/Kg	4	☼	6010B	Total/NA
Barium	360		2.1		mg/Kg	4	☼	6010B	Total/NA
Cadmium	0.85		0.54		mg/Kg	4	☼	6010B	Total/NA
Chromium	550		2.1		mg/Kg	4	☼	6010B	Total/NA
Cobalt	49		0.86		mg/Kg	4	☼	6010B	Total/NA
Copper	65		6.4		mg/Kg	4	☼	6010B	Total/NA
Lead	920		2.1		mg/Kg	4	☼	6010B	Total/NA
Nickel	820		2.1		mg/Kg	4	☼	6010B	Total/NA
Vanadium	53		2.1		mg/Kg	4	☼	6010B	Total/NA
Zinc	380		6.4		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.24		0.012		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-202-2(A,B,C,D) — Lab Sample ID: 720-63002-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	5.2		2.1		mg/Kg	4	☼	6010B	Total/NA
Arsenic	5.4		4.1		mg/Kg	4	☼	6010B	Total/NA
Barium	190		2.1		mg/Kg	4	☼	6010B	Total/NA
Chromium	360		2.1		mg/Kg	4	☼	6010B	Total/NA
Cobalt	39		0.82		mg/Kg	4	☼	6010B	Total/NA
Copper	43		6.2		mg/Kg	4	☼	6010B	Total/NA
Lead	370		2.1		mg/Kg	4	☼	6010B	Total/NA
Nickel	660		2.1		mg/Kg	4	☼	6010B	Total/NA
Vanadium	43		2.1		mg/Kg	4	☼	6010B	Total/NA
Zinc	250		6.2		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.11		0.011		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-202-3(A,B,C,D) — Lab Sample ID: 720-63002-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	7.7		2.0		mg/Kg	4	☼	6010B	Total/NA
Arsenic	8.0		3.9		mg/Kg	4	☼	6010B	Total/NA
Barium	180		2.0		mg/Kg	4	☼	6010B	Total/NA
Cadmium	1.2		0.49		mg/Kg	4	☼	6010B	Total/NA
Chromium	380		2.0		mg/Kg	4	☼	6010B	Total/NA
Cobalt	42		0.79		mg/Kg	4	☼	6010B	Total/NA
Copper	51		5.9		mg/Kg	4	☼	6010B	Total/NA
Lead	460		2.0		mg/Kg	4	☼	6010B	Total/NA
Nickel	710		2.0		mg/Kg	4	☼	6010B	Total/NA
Vanadium	47		2.0		mg/Kg	4	☼	6010B	Total/NA
Zinc	590		5.9		mg/Kg	4	☼	6010B	Total/NA
Mercury	1.7		0.010		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-202-4(A,B,C,D) — Lab Sample ID: 720-63002-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	7.2		2.4		mg/Kg	4	☼	6010B	Total/NA
Arsenic	11		4.8		mg/Kg	4	☼	6010B	Total/NA
Barium	890		2.4		mg/Kg	4	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SP-202-4(A,B,C,D) (Continued) — Lab Sample ID: 720-63002-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.71		0.48		mg/Kg	4	☼	6010B	Total/NA
Cadmium	3.2		0.60		mg/Kg	4	☼	6010B	Total/NA
Chromium	170		2.4		mg/Kg	4	☼	6010B	Total/NA
Cobalt	21		0.97		mg/Kg	4	☼	6010B	Total/NA
Copper	180		7.3		mg/Kg	4	☼	6010B	Total/NA
Lead	1500		2.4		mg/Kg	4	☼	6010B	Total/NA
Nickel	260		2.4		mg/Kg	4	☼	6010B	Total/NA
Silver	2.0		1.2		mg/Kg	4	☼	6010B	Total/NA
Vanadium	85		2.4		mg/Kg	4	☼	6010B	Total/NA
Zinc	1200		7.3		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.49		0.012		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-1(A,B,C,D) — Lab Sample ID: 720-63002-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	9.1		1.9		mg/Kg	4	☼	6010B	Total/NA
Arsenic	4.8		3.8		mg/Kg	4	☼	6010B	Total/NA
Barium	71		1.9		mg/Kg	4	☼	6010B	Total/NA
Chromium	720		1.9		mg/Kg	4	☼	6010B	Total/NA
Cobalt	72		0.76		mg/Kg	4	☼	6010B	Total/NA
Copper	20		5.7		mg/Kg	4	☼	6010B	Total/NA
Lead	85		1.9		mg/Kg	4	☼	6010B	Total/NA
Nickel	1400		1.9		mg/Kg	4	☼	6010B	Total/NA
Vanadium	42		1.9		mg/Kg	4	☼	6010B	Total/NA
Zinc	66		5.7		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.052		0.011		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-2(A,B,C,D) — Lab Sample ID: 720-63002-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	7.7		2.0		mg/Kg	4	☼	6010B	Total/NA
Arsenic	4.9		4.1		mg/Kg	4	☼	6010B	Total/NA
Barium	87		2.0		mg/Kg	4	☼	6010B	Total/NA
Chromium	630		2.0		mg/Kg	4	☼	6010B	Total/NA
Cobalt	68		0.81		mg/Kg	4	☼	6010B	Total/NA
Copper	24		6.1		mg/Kg	4	☼	6010B	Total/NA
Lead	84		2.0		mg/Kg	4	☼	6010B	Total/NA
Nickel	1300		2.0		mg/Kg	4	☼	6010B	Total/NA
Vanadium	42		2.0		mg/Kg	4	☼	6010B	Total/NA
Zinc	77		6.1		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.068		0.013		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-3(A,B,C,D) — Lab Sample ID: 720-63002-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	9.2		2.1		mg/Kg	4	☼	6010B	Total/NA
Arsenic	5.2		4.1		mg/Kg	4	☼	6010B	Total/NA
Barium	90		2.1		mg/Kg	4	☼	6010B	Total/NA
Chromium	720		2.1		mg/Kg	4	☼	6010B	Total/NA
Cobalt	67		0.82		mg/Kg	4	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SP-203-3(A,B,C,D) (Continued) — Lab Sample ID: 720-63002-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	24		6.2		mg/Kg	4	☼	6010B	Total/NA
Lead	90		2.1		mg/Kg	4	☼	6010B	Total/NA
Nickel	1300		2.1		mg/Kg	4	☼	6010B	Total/NA
Vanadium	47		2.1		mg/Kg	4	☼	6010B	Total/NA
Zinc	85		6.2		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.074		0.011		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-4(A,B,C,D) — Lab Sample ID: 720-63002-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	6.9		1.9		mg/Kg	4	☼	6010B	Total/NA
Arsenic	6.6		3.9		mg/Kg	4	☼	6010B	Total/NA
Barium	110		1.9		mg/Kg	4	☼	6010B	Total/NA
Chromium	570		1.9		mg/Kg	4	☼	6010B	Total/NA
Cobalt	60		0.77		mg/Kg	4	☼	6010B	Total/NA
Copper	28		5.8		mg/Kg	4	☼	6010B	Total/NA
Lead	110		1.9		mg/Kg	4	☼	6010B	Total/NA
Nickel	970		1.9		mg/Kg	4	☼	6010B	Total/NA
Vanadium	57		1.9		mg/Kg	4	☼	6010B	Total/NA
Zinc	92		5.8		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.058		0.011		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-202-5(A,B,C,D) — Lab Sample ID: 720-63002-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	4.7		1.6		mg/Kg	4	☼	6010B	Total/NA
Arsenic	9.2		3.1		mg/Kg	4	☼	6010B	Total/NA
Barium	470		1.6		mg/Kg	4	☼	6010B	Total/NA
Cadmium	1.4		0.39		mg/Kg	4	☼	6010B	Total/NA
Chromium	190		1.6		mg/Kg	4	☼	6010B	Total/NA
Cobalt	21		0.62		mg/Kg	4	☼	6010B	Total/NA
Copper	440		4.7		mg/Kg	4	☼	6010B	Total/NA
Lead	1200		1.6		mg/Kg	4	☼	6010B	Total/NA
Nickel	310		1.6		mg/Kg	4	☼	6010B	Total/NA
Silver	1.2		0.78		mg/Kg	4	☼	6010B	Total/NA
Vanadium	46		1.6		mg/Kg	4	☼	6010B	Total/NA
Zinc	1200		4.7		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.19		0.010		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-202-6(A,B,C,D) — Lab Sample ID: 720-63002-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	5.7		1.4		mg/Kg	4	☼	6010B	Total/NA
Arsenic	6.6		2.8		mg/Kg	4	☼	6010B	Total/NA
Barium	280		1.4		mg/Kg	4	☼	6010B	Total/NA
Cadmium	0.87		0.35		mg/Kg	4	☼	6010B	Total/NA
Chromium	390		1.4		mg/Kg	4	☼	6010B	Total/NA
Cobalt	34		0.57		mg/Kg	4	☼	6010B	Total/NA
Copper	82		4.2		mg/Kg	4	☼	6010B	Total/NA
Lead	550		1.4		mg/Kg	4	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SP-202-6(A,B,C,D) (Continued) — Lab Sample ID: 720-63002-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	580		1.4		mg/Kg	4	☼	6010B	Total/NA
Vanadium	52		1.4		mg/Kg	4	☼	6010B	Total/NA
Zinc	430		4.2		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.14		0.010		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-5(A,B,C,D) — Lab Sample ID: 720-63002-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	12		1.7		mg/Kg	4	☼	6010B	Total/NA
Arsenic	5.4		3.5		mg/Kg	4	☼	6010B	Total/NA
Barium	78		1.7		mg/Kg	4	☼	6010B	Total/NA
Chromium	950		1.7		mg/Kg	4	☼	6010B	Total/NA
Cobalt	82		0.70		mg/Kg	4	☼	6010B	Total/NA
Copper	22		5.2		mg/Kg	4	☼	6010B	Total/NA
Lead	92		1.7		mg/Kg	4	☼	6010B	Total/NA
Nickel	1600		1.7		mg/Kg	4	☼	6010B	Total/NA
Vanadium	45		1.7		mg/Kg	4	☼	6010B	Total/NA
Zinc	70		5.2		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.052		0.012		mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SP-203-5(A,B,C,D) — Lab Sample ID: 720-63002-60

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	10		1.7		mg/Kg	4	☼	6010B	Total/NA
Arsenic	5.4		3.4		mg/Kg	4	☼	6010B	Total/NA
Barium	87		1.7		mg/Kg	4	☼	6010B	Total/NA
Chromium	830		1.7		mg/Kg	4	☼	6010B	Total/NA
Cobalt	58		0.67		mg/Kg	4	☼	6010B	Total/NA
Copper	24		5.1		mg/Kg	4	☼	6010B	Total/NA
Lead	83		1.7		mg/Kg	4	☼	6010B	Total/NA
Nickel	890		1.7		mg/Kg	4	☼	6010B	Total/NA
Vanadium	48		1.7		mg/Kg	4	☼	6010B	Total/NA
Zinc	90		5.1		mg/Kg	4	☼	6010B	Total/NA
Mercury	0.058		0.010		mg/Kg	1	☼	7471A	Total/NA

This Detection Summary does not include radiochemical test results.

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-1(A.B.C.D)
Date Collected: 02/13/15 12:50
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-5
Matrix: Solid
Percent Solids: 79.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	7.5		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Arsenic	6.2		4.3		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Barium	360		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Beryllium	ND		0.43		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Cadmium	0.85		0.54		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Chromium	550		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Cobalt	49		0.86		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Copper	65		6.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Lead	920		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Molybdenum	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Nickel	820		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Selenium	ND		4.3		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Silver	ND		1.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Thallium	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Vanadium	53		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4
Zinc	380		6.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:29	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.24		0.012		mg/Kg	☼	02/17/15 08:37	02/17/15 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-2(A,B,C,D)
Date Collected: 02/13/15 13:00
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-10
Matrix: Solid
Percent Solids: 83.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.2		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Arsenic	5.4		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Barium	190		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Beryllium	ND		0.41		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Cadmium	ND		0.52		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Chromium	360		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Cobalt	39		0.82		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Copper	43		6.2		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Lead	370		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Molybdenum	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Nickel	660		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Selenium	ND		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Silver	ND		1.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Thallium	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Vanadium	43		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4
Zinc	250		6.2		mg/Kg	☼	02/17/15 08:02	02/17/15 16:34	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.011		mg/Kg	☼	02/17/15 08:37	02/17/15 16:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-3(A,B,C,D)
Date Collected: 02/13/15 13:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-15
Matrix: Solid
Percent Solids: 84.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	7.7		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Arsenic	8.0		3.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Barium	180		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Beryllium	ND		0.39		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Cadmium	1.2		0.49		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Chromium	380		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Cobalt	42		0.79		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Copper	51		5.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Lead	460		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Molybdenum	ND		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Nickel	710		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Selenium	ND		3.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Silver	ND		0.99		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Thallium	ND		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Vanadium	47		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4
Zinc	590		5.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:38	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.7		0.010		mg/Kg	☼	02/17/15 08:37	02/17/15 16:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-4(A,B,C,D)
Date Collected: 02/13/15 12:35
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-20
Matrix: Solid
Percent Solids: 78.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**7.2**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Arsenic	**11**		4.8		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Barium	**890**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Beryllium	**0.71**		0.48		mg/Kg	☼	02/17/15 08:02	02/17/15 18:05	4
Cadmium	**3.2**		0.60		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Chromium	**170**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Cobalt	**21**		0.97		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Copper	**180**		7.3		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Lead	**1500**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Molybdenum	ND		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Nickel	**260**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Selenium	ND		4.8		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Silver	**2.0**		1.2		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Thallium	ND		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Vanadium	**85**		2.4		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4
Zinc	**1200**		7.3		mg/Kg	☼	02/17/15 08:02	02/17/15 16:52	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.49**		0.012		mg/Kg	☼	02/17/15 08:37	02/17/15 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22**		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-1(A,B,C,D)
Date Collected: 02/13/15 10:55
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-25
Matrix: Solid
Percent Solids: 81.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	9.1		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Arsenic	4.8		3.8		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Barium	71		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Beryllium	ND		0.38		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Cadmium	ND		0.48		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Chromium	720		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Cobalt	72		0.76		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Copper	20		5.7		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Lead	85		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Molybdenum	ND		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Nickel	1400		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Selenium	ND		3.8		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Silver	ND		0.95		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Thallium	ND		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Vanadium	42		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4
Zinc	66		5.7		mg/Kg	☼	02/17/15 08:02	02/17/15 16:57	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.052		0.011		mg/Kg	☼	02/17/15 08:37	02/17/15 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-2(A,B,C,D)
Date Collected: 02/13/15 10:35
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-30
Matrix: Solid
Percent Solids: 76.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	7.7		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Arsenic	4.9		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Barium	87		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Beryllium	ND		0.41		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Cadmium	ND		0.51		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Chromium	630		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Cobalt	68		0.81		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Copper	24		6.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Lead	84		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Molybdenum	ND		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Nickel	1300		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Selenium	ND		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Silver	ND		1.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Thallium	ND		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Vanadium	42		2.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4
Zinc	77		6.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:01	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.068		0.013		mg/Kg	☼	02/17/15 08:37	02/17/15 16:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-3(A,B,C,D)
Date Collected: 02/13/15 10:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-35
Matrix: Solid
Percent Solids: 79.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	9.2		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Arsenic	5.2		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Barium	90		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Beryllium	ND		0.41		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Cadmium	ND		0.51		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Chromium	720		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Cobalt	67		0.82		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Copper	24		6.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Lead	90		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Molybdenum	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Nickel	1300		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Selenium	ND		4.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Silver	ND		1.0		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Thallium	ND		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Vanadium	47		2.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4
Zinc	85		6.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:06	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.074		0.011		mg/Kg	☼	02/17/15 08:37	02/17/15 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-4(A,B,C,D)
Date Collected: 02/13/15 09:56
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-40
Matrix: Solid
Percent Solids: 80.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	6.9		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Arsenic	6.6		3.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Barium	110		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Beryllium	ND		0.39		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Cadmium	ND		0.48		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Chromium	570		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Cobalt	60		0.77		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Copper	28		5.8		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Lead	110		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Molybdenum	ND		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Nickel	970		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Selenium	ND		3.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Silver	ND		0.97		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Thallium	ND		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Vanadium	57		1.9		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4
Zinc	92		5.8		mg/Kg	☼	02/17/15 08:02	02/17/15 17:11	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.058		0.011		mg/Kg	☼	02/17/15 08:37	02/17/15 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-5(A,B,C,D)
Date Collected: 02/13/15 12:20
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-45
Matrix: Solid
Percent Solids: 81.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	4.7		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Arsenic	9.2		3.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Barium	470		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Beryllium	ND		0.31		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Cadmium	1.4		0.39		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Chromium	190		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Cobalt	21		0.62		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Copper	440		4.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Lead	1200		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Molybdenum	ND		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Nickel	310		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Selenium	ND		3.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Silver	1.2		0.78		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Thallium	ND		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Vanadium	46		1.6		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4
Zinc	1200		4.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:15	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19		0.010		mg/Kg	☼	02/17/15 08:37	02/17/15 16:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-202-6(A,B,C,D)
Date Collected: 02/13/15 12:05
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-50
Matrix: Solid
Percent Solids: 82.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.7		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Arsenic	6.6		2.8		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Barium	280		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Beryllium	ND		0.28		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Cadmium	0.87		0.35		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Chromium	390		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Cobalt	34		0.57		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Copper	82		4.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Lead	550		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Molybdenum	ND		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Nickel	580		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Selenium	ND		2.8		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Silver	ND		0.71		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Thallium	ND		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Vanadium	52		1.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4
Zinc	430		4.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:20	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.010		mg/Kg	☼	02/17/15 08:37	02/17/15 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-5(A,B,C,D)
Date Collected: 02/13/15 11:42
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-55
Matrix: Solid
Percent Solids: 74.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	12		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Arsenic	5.4		3.5		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Barium	78		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Beryllium	ND		0.35		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Cadmium	ND		0.44		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Chromium	950		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Cobalt	82		0.70		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Copper	22		5.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Lead	92		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Molybdenum	ND		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Nickel	1600		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Selenium	ND		3.5		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Silver	ND		0.87		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Thallium	ND		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Vanadium	45		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4
Zinc	70		5.2		mg/Kg	☼	02/17/15 08:02	02/17/15 17:25	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.052		0.012		mg/Kg	☼	02/17/15 08:37	02/17/15 16:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25		0.10		%			02/16/15 12:45	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-5(A,B,C,D)
Date Collected: 02/13/15 11:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-60
Matrix: Solid
Percent Solids: 86.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	10		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Arsenic	5.4		3.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Barium	87		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Beryllium	ND		0.34		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Cadmium	ND		0.42		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Chromium	830		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Cobalt	58		0.67		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Copper	24		5.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Lead	83		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Molybdenum	ND		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Nickel	890		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Selenium	ND		3.4		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Silver	ND		0.84		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Thallium	ND		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Vanadium	48		1.7		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4
Zinc	90		5.1		mg/Kg	☼	02/17/15 08:02	02/17/15 17:29	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.058		0.010		mg/Kg	☼	02/17/15 08:37	02/17/15 17:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13		0.10		%			02/16/15 12:45	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-175951/1-A
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 175951

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Arsenic	ND		1.0		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Barium	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Beryllium	ND		0.10		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Cadmium	ND		0.13		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Chromium	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Cobalt	ND		0.20		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Copper	ND		1.5		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Lead	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Molybdenum	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Nickel	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Selenium	ND		1.0		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Silver	ND		0.25		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Thallium	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Vanadium	ND		0.50		mg/Kg		02/17/15 08:02	02/17/15 15:56	1
Zinc	ND		1.5		mg/Kg		02/17/15 08:02	02/17/15 15:56	1

Lab Sample ID: LCS 720-175951/2-A
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	52.1		mg/Kg		104	80 - 120
Arsenic	50.0	50.0		mg/Kg		100	80 - 120
Barium	50.0	50.3		mg/Kg		101	80 - 120
Beryllium	50.0	51.2		mg/Kg		102	80 - 120
Cadmium	50.0	50.6		mg/Kg		101	80 - 120
Chromium	50.0	51.0		mg/Kg		102	80 - 120
Cobalt	50.0	52.4		mg/Kg		105	80 - 120
Copper	50.0	51.3		mg/Kg		103	80 - 120
Lead	50.0	51.4		mg/Kg		103	80 - 120
Molybdenum	50.0	53.3		mg/Kg		107	80 - 120
Nickel	50.0	51.4		mg/Kg		103	80 - 120
Selenium	50.0	50.0		mg/Kg		100	80 - 120
Silver	25.0	25.0		mg/Kg		100	80 - 120
Thallium	50.0	51.3		mg/Kg		103	80 - 120
Vanadium	50.0	50.3		mg/Kg		101	80 - 120
Zinc	50.0	51.2		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 720-175951/3-A
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	50.0	52.6		mg/Kg		105	80 - 120	1	20
Arsenic	50.0	50.3		mg/Kg		101	80 - 120	1	20
Barium	50.0	50.8		mg/Kg		102	80 - 120	1	20
Beryllium	50.0	51.7		mg/Kg		103	80 - 120	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 720-175951/3-A
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	50.0	50.6		mg/Kg		101	80 - 120	0	20
Chromium	50.0	51.1		mg/Kg		102	80 - 120	0	20
Cobalt	50.0	52.4		mg/Kg		105	80 - 120	0	20
Copper	50.0	51.7		mg/Kg		103	80 - 120	1	20
Lead	50.0	51.5		mg/Kg		103	80 - 120	0	20
Molybdenum	50.0	53.8		mg/Kg		108	80 - 120	1	20
Nickel	50.0	51.5		mg/Kg		103	80 - 120	0	20
Selenium	50.0	50.4		mg/Kg		101	80 - 120	1	20
Silver	25.0	25.1		mg/Kg		100	80 - 120	0	20
Thallium	50.0	51.7		mg/Kg		103	80 - 120	1	20
Vanadium	50.0	51.1		mg/Kg		102	80 - 120	2	20
Zinc	50.0	50.6		mg/Kg		101	80 - 120	1	20

Lab Sample ID: LCSSRM 720-175951/18-A
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	74.6	41.8		mg/Kg		56	11 - 101
Arsenic	45.5	43.5		mg/Kg		96	69 - 119
Barium	579	533		mg/Kg		92	61 - 117
Beryllium	155	151		mg/Kg		97	56 - 102
Cadmium	201	189		mg/Kg		94	67 - 118
Chromium	106	99.5		mg/Kg		94	67 - 121
Cobalt	247	243		mg/Kg		98	64 - 133
Copper	130	128		mg/Kg		98	68 - 126
Lead	302	279		mg/Kg		93	62 - 113
Molybdenum	165	162		mg/Kg		98	62 - 128
Nickel	305	287		mg/Kg		94	65 - 117
Selenium	133	129		mg/Kg		97	63 - 126
Silver	33.5	32.5		mg/Kg		97	51 - 130
Thallium	191	178		mg/Kg		93	64 - 124
Vanadium	214	207		mg/Kg		97	67 - 123
Zinc	388	363		mg/Kg		94	62 - 110

Lab Sample ID: 720-63002-5 MS
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	7.5		49.8	16.3	F1	mg/Kg	☼	18	75 - 125
Arsenic	6.2		49.8	54.0		mg/Kg	☼	96	75 - 125
Barium	360		49.8	457	4	mg/Kg	☼	187	75 - 125
Beryllium	ND		49.8	48.5		mg/Kg	☼	97	75 - 125
Cadmium	0.85		49.8	48.0		mg/Kg	☼	95	75 - 125
Chromium	550		49.8	542	4	mg/Kg	☼	-20	75 - 125
Cobalt	49		49.8	95.1		mg/Kg	☼	92	75 - 125
Copper	65		49.8	136	F1	mg/Kg	☼	142	75 - 125
Lead	920		49.8	620	4	mg/Kg	☼	-605	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-63002-5 MS
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	ND		49.8	50.0		mg/Kg	☼	98	75 - 125
Nickel	820		49.8	801	4	mg/Kg	☼	-32	75 - 125
Selenium	ND		49.8	47.1		mg/Kg	☼	95	75 - 125
Silver	ND		24.9	25.2		mg/Kg	☼	100	75 - 125
Thallium	ND		49.8	44.8		mg/Kg	☼	90	75 - 125
Vanadium	53		49.8	99.7		mg/Kg	☼	94	75 - 125
Zinc	380		49.8	460	4	mg/Kg	☼	155	75 - 125

Lab Sample ID: 720-63002-5 MSD
Matrix: Solid
Analysis Batch: 176020

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	7.5		52.7	15.3	F1	mg/Kg	☼	15	75 - 125	6	20
Arsenic	6.2		52.7	56.6		mg/Kg	☼	96	75 - 125	5	20
Barium	360		52.7	1360	4 F2	mg/Kg	☼	1883	75 - 125	99	20
Beryllium	ND		52.7	50.4		mg/Kg	☼	96	75 - 125	4	20
Cadmium	0.85		52.7	50.2		mg/Kg	☼	94	75 - 125	4	20
Chromium	550		52.7	443	4	mg/Kg	☼	-207	75 - 125	20	20
Cobalt	49		52.7	98.7		mg/Kg	☼	94	75 - 125	4	20
Copper	65		52.7	123		mg/Kg	☼	111	75 - 125	9	20
Molybdenum	ND		52.7	49.7		mg/Kg	☼	92	75 - 125	1	20
Nickel	820		52.7	846	4	mg/Kg	☼	56	75 - 125	6	20
Selenium	ND		52.7	47.6		mg/Kg	☼	90	75 - 125	1	20
Silver	ND		26.4	26.6		mg/Kg	☼	99	75 - 125	5	20
Thallium	ND		52.7	46.9		mg/Kg	☼	89	75 - 125	5	20
Vanadium	53		52.7	109		mg/Kg	☼	106	75 - 125	9	20
Zinc	380		52.7	865	4 F2	mg/Kg	☼	915	75 - 125	61	20

Lab Sample ID: 720-63002-5 MSD
Matrix: Solid
Analysis Batch: 176023

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175951

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	920		52.7	13800	4 F2	mg/Kg	☼	24503	75 - 125	183	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-175957/1-A
Matrix: Solid
Analysis Batch: 176013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 175957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		02/17/15 08:37	02/17/15 16:15	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 720-175957/2-A
Matrix: Solid
Analysis Batch: 176013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 175957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	0.825		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 720-175957/3-A
Matrix: Solid
Analysis Batch: 176013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 175957

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.833	0.833		mg/Kg		100	80 - 120	1	20

Lab Sample ID: 720-63002-5 MS
Matrix: Solid
Analysis Batch: 176013

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175957

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.24		0.904	1.26		mg/Kg	☼	112	75 - 125

Lab Sample ID: 720-63002-5 MSD
Matrix: Solid
Analysis Batch: 176013

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA
Prep Batch: 175957

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.24		0.958	1.27		mg/Kg	☼	108	75 - 125	1	20

Method: Moisture - Percent Moisture

Lab Sample ID: 720-63002-5 DU
Matrix: Solid
Analysis Batch: 175941

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	21		20		%		3	20

Metals

Prep Batch: 175951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Total/NA	Solid	3050B	
720-63002-5 MS	SP-202-1(A.B.C.D)	Total/NA	Solid	3050B	
720-63002-5 MSD	SP-202-1(A.B.C.D)	Total/NA	Solid	3050B	
720-63002-10	SP-202-2(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-15	SP-202-3(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-25	SP-203-1(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-30	SP-203-2(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-35	SP-203-3(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-40	SP-203-4(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-45	SP-202-5(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-50	SP-202-6(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-55	SP-203-5(A,B,C,D)	Total/NA	Solid	3050B	
720-63002-60	SP-203-5(A,B,C,D)	Total/NA	Solid	3050B	
LCS 720-175951/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 720-175951/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
LCSSRM 720-175951/18-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 720-175951/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 175957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	
720-63002-5 MS	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	
720-63002-5 MSD	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	
720-63002-10	SP-202-2(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-15	SP-202-3(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-25	SP-203-1(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-30	SP-203-2(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-35	SP-203-3(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-40	SP-203-4(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-45	SP-202-5(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-50	SP-202-6(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-55	SP-203-5(A,B,C,D)	Total/NA	Solid	7471A	
720-63002-60	SP-203-5(A,B,C,D)	Total/NA	Solid	7471A	
LCS 720-175957/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 720-175957/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 720-175957/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 176013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	175957
720-63002-5 MS	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	175957
720-63002-5 MSD	SP-202-1(A.B.C.D)	Total/NA	Solid	7471A	175957
720-63002-10	SP-202-2(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-15	SP-202-3(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-25	SP-203-1(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-30	SP-203-2(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-35	SP-203-3(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-40	SP-203-4(A,B,C,D)	Total/NA	Solid	7471A	175957

Metals (Continued)

Analysis Batch: 176013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-45	SP-202-5(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-50	SP-202-6(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-55	SP-203-5(A,B,C,D)	Total/NA	Solid	7471A	175957
720-63002-60	SP-203-5(A,B,C,D)	Total/NA	Solid	7471A	175957
LCS 720-175957/2-A	Lab Control Sample	Total/NA	Solid	7471A	175957
LCSD 720-175957/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	175957
MB 720-175957/1-A	Method Blank	Total/NA	Solid	7471A	175957

Analysis Batch: 176020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Total/NA	Solid	6010B	175951
720-63002-5 MS	SP-202-1(A.B.C.D)	Total/NA	Solid	6010B	175951
720-63002-5 MSD	SP-202-1(A.B.C.D)	Total/NA	Solid	6010B	175951
720-63002-10	SP-202-2(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-15	SP-202-3(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-25	SP-203-1(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-30	SP-203-2(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-35	SP-203-3(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-40	SP-203-4(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-45	SP-202-5(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-50	SP-202-6(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-55	SP-203-5(A,B,C,D)	Total/NA	Solid	6010B	175951
720-63002-60	SP-203-5(A,B,C,D)	Total/NA	Solid	6010B	175951
LCS 720-175951/2-A	Lab Control Sample	Total/NA	Solid	6010B	175951
LCSD 720-175951/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	175951
LCSSRM 720-175951/18-A	Lab Control Sample	Total/NA	Solid	6010B	175951
MB 720-175951/1-A	Method Blank	Total/NA	Solid	6010B	175951

Analysis Batch: 176023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5 MSD	SP-202-1(A.B.C.D)	Total/NA	Solid	6010B	175951
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	6010B	175951

General Chemistry

Analysis Batch: 175941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Total/NA	Solid	Moisture	
720-63002-5 DU	SP-202-1(A.B.C.D)	Total/NA	Solid	Moisture	
720-63002-10	SP-202-2(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-15	SP-202-3(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-20	SP-202-4(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-25	SP-203-1(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-30	SP-203-2(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-35	SP-203-3(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-40	SP-203-4(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-45	SP-202-5(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-50	SP-202-6(A,B,C,D)	Total/NA	Solid	Moisture	
720-63002-55	SP-203-5(A,B,C,D)	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 175941 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-60	SP-203-5(A,B,C,D)	Total/NA	Solid	Moisture	

Client Sample ID: SP-202-1(A.B.C.D)

Lab Sample ID: 720-63002-5

Date Collected: 02/13/15 12:50

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 16:29	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:28	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-202-2(A,B,C,D)

Lab Sample ID: 720-63002-10

Date Collected: 02/13/15 13:00

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 16:34	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:31	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-202-3(A,B,C,D)

Lab Sample ID: 720-63002-15

Date Collected: 02/13/15 13:15

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 16:38	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:34	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-202-4(A,B,C,D)

Lab Sample ID: 720-63002-20

Date Collected: 02/13/15 12:35

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 16:52	CAM	TAL PLS
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176023	02/17/15 18:05	SLK	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:36	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Client Sample ID: SP-203-1(A,B,C,D)

Lab Sample ID: 720-63002-25
Date Collected: 02/13/15 10:55
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 16:57	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:39	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-203-2(A,B,C,D)

Lab Sample ID: 720-63002-30
Date Collected: 02/13/15 10:35
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:01	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:46	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-203-3(A,B,C,D)

Lab Sample ID: 720-63002-35
Date Collected: 02/13/15 10:15
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:06	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:48	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-203-4(A,B,C,D)

Lab Sample ID: 720-63002-40
Date Collected: 02/13/15 09:56
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:11	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:51	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-202-5(A,B,C,D)

Lab Sample ID: 720-63002-45

Date Collected: 02/13/15 12:20

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:15	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:53	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-202-6(A,B,C,D)

Lab Sample ID: 720-63002-50

Date Collected: 02/13/15 12:05

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:20	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:55	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-203-5(A,B,C,D)

Lab Sample ID: 720-63002-55

Date Collected: 02/13/15 11:42

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 74.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:25	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 16:58	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Client Sample ID: SP-203-5(A,B,C,D)

Lab Sample ID: 720-63002-60

Date Collected: 02/13/15 11:15

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			175951	02/17/15 08:02	ECT	TAL PLS
Total/NA	Analysis	6010B		4	176020	02/17/15 17:29	CAM	TAL PLS
Total/NA	Prep	7471A			175957	02/17/15 08:37	ECT	TAL PLS
Total/NA	Analysis	7471A		1	176013	02/17/15 17:00	CAM	TAL PLS
Total/NA	Analysis	Moisture		1	175941	02/16/15 12:45	MJK	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Method Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS
Moisture	Percent Moisture	EPA	TAL PLS

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-63002-5	SP-202-1(A.B.C.D)	Solid	02/13/15 12:50	02/13/15 17:55
720-63002-10	SP-202-2(A,B,C,D)	Solid	02/13/15 13:00	02/13/15 17:55
720-63002-15	SP-202-3(A,B,C,D)	Solid	02/13/15 13:15	02/13/15 17:55
720-63002-20	SP-202-4(A,B,C,D)	Solid	02/13/15 12:35	02/13/15 17:55
720-63002-25	SP-203-1(A,B,C,D)	Solid	02/13/15 10:55	02/13/15 17:55
720-63002-30	SP-203-2(A,B,C,D)	Solid	02/13/15 10:35	02/13/15 17:55
720-63002-35	SP-203-3(A,B,C,D)	Solid	02/13/15 10:15	02/13/15 17:55
720-63002-40	SP-203-4(A,B,C,D)	Solid	02/13/15 09:56	02/13/15 17:55
720-63002-45	SP-202-5(A,B,C,D)	Solid	02/13/15 12:20	02/13/15 17:55
720-63002-50	SP-202-6(A,B,C,D)	Solid	02/13/15 12:05	02/13/15 17:55
720-63002-55	SP-203-5(A,B,C,D)	Solid	02/13/15 11:42	02/13/15 17:55
720-63002-60	SP-203-5(A,B,C,D)	Solid	02/13/15 11:15	02/13/15 17:55

TRC
CHAIN OF CUSTODY RECORD

☐ Mountain View Office
1920 Old Middlefield Rd
Mountain View, CA 94043
Tel: 650.967.2365
Fax: 650.967.2785

☒ San Francisco
101 2nd Street, Suite 300
San Francisco, CA 94105
Tel: 415.644.3000
Fax: 415.541.9378

720-63002 159359

Project Name: Doyle Drive – Presidio Trust
Job No.: 230644.1 P.O. #: 77860
Report To: Jhanzel-durbin@trcsolutions.com
Sampler (print): K. Houston
Sampler (signature):
Electronic Deliverable Format Required: ☐ YES ☐ NO
EDF LOGCODE: ☐ TRCO
Global ID # :
Sample Type: (Soil) Groundwater Soil Vapor

Turnaround Requirements
☒ 5 Working Days TPHanalysis
☐ 72 Hours
☒ 24 Hours CAM17only
☐ 2-3 Hours RUSH
☐ STANDARD

QC Requirement:
☐ Level IV
☐ EDF
☒ Excel/EDD

RUSH

Sample I.D. (Field Point Name)	Date	Time	Lab I.D.	Sample Matrix	# of cont	Preserved?	☐ EPA 8260B –Full List ☐ Gas w/ ☐ BTEX ☐ MTBE	☒ TPH EPA 8015M* ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other	Metals: ☐ Lead ☐ LUFT ☐ RCRA	TRPH (418.1) with silica gel column	☐ Ferrous Iron Fe +2 (HACH 8146)	☐ Hexavalent Chromium (7199)	~~2-Propanol~~ Composite	VOCs	TO-15	Metals: ☒ CAM 17 (6010)	PCBs (8082)	PAHs (8310)	All analyses to be dry weight corrected
SP-202-1(A/B/C/D)	2/13/15	12:50		Soil	4	Ice		X					X			X			X
SP-202-2(A/B/C/D)	"	13:00		"	"	"		X					X			X			X
SP-202-3(A/B/C/D)	"	13:15		"	"	"		X					X			X			X
SP-202-4(A/B/C/D)	"	12:35		"	"	"		X					X			X			X
SP-203-1(A/B/C/D)	"	10:55		"	"	"		X					X			X			X
SP-203-2(A/B/C/D)	"	10:35		"	"	"		X					X			X			X
SP-203-3(A/B/C/D)	"	10:15		"	"	"		X					X			X			X
SP-203-4(A/B/C/D)	"	9:56		"	"	"		X					X			X			X
SP-202-5(A/B/C/D)	"	12:20		"	"	"		X					X			X			X
SP-202-6(A/B/C/D)	"	12:05		"	"	"		X					X			X			X
SP-203-5(A/B/C/D)	"	11:42		"	"	"		X					X			X			X
SP-203-5(A/B/C/D)	"	11:15		"	"	"		X					X			X			X

Relinquished By:	Date: 2/13/15	Time: 15:00	Received By: ~~Relinquished~~ Date: Time:
Received ~~Relinquished~~ By:	Date: 13FEB15	Time: 1627	Received By: Date: 2-13-15 Time: 1755
Relinquished By:	Date:	Time:	Lab of Record:
			Received by Lab:

PM Initial:
Temp:

6.5/6.2°c

720-63002 Chain of Custody

2/17/2015

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 720-63002-1

Login Number: 63002

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Gonzales, Justinn

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	SEE NCM
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-63002-3
Client Project/Site: Doyle Drive-Presidio Trust

For:
TRC Solutions, Inc.
101 2nd street
Suite 300
San Francisco, California 94105

Attn: Justin Hanzel-Durbin

Authorized for release by:
2/20/2015 9:20:33 PM

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

Table of Contents

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-63002-3

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-63002-3

Comments
No additional comments.

Receipt
The samples were received on 2/13/2015 5:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperatures of the 2 coolers at receipt time were 6.2º C and 6.5º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-1(A.B.C.D) — Lab Sample ID: 720-63002-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	48		0.050		mg/L	1		6010B	STLC Citrate
Nickel	4.8		0.10		mg/L	1		6010B	STLC Citrate
Chromium	0.72		0.10		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-202-2(A,B,C,D) — Lab Sample ID: 720-63002-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	21		0.050		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-202-3(A,B,C,D) — Lab Sample ID: 720-63002-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	18		0.050		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-202-4(A,B,C,D) — Lab Sample ID: 720-63002-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2.0		0.050		mg/L	1		6010B	TCLP

Client Sample ID: SP-203-3(A,B,C,D) — Lab Sample ID: 720-63002-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3.4		0.050		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-203-4(A,B,C,D) — Lab Sample ID: 720-63002-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	64		0.050		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-202-6(A,B,C,D) — Lab Sample ID: 720-63002-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	29		0.050		mg/L	1		6010B	STLC Citrate

Client Sample ID: SP-203-5(A,B,C,D) — Lab Sample ID: 720-63002-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3.4		0.050		mg/L	1		6010B	STLC Citrate
Nickel	9.8		0.10		mg/L	1		6010B	STLC Citrate
Chromium	1.0		0.10		mg/L	1		6010B	STLC Citrate

This Detection Summary does not include radiochemical test results.

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-1(A.B.C.D)
Date Collected: 02/13/15 12:50
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-5
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	48		0.050		mg/L		02/20/15 13:42	02/20/15 16:22	1
Nickel	4.8		0.10		mg/L		02/20/15 13:42	02/20/15 16:22	1
Chromium	0.72		0.10		mg/L		02/20/15 13:42	02/20/15 16:22	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-2(A,B,C,D)
Date Collected: 02/13/15 13:00
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-10
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	21		0.050		mg/L		02/20/15 13:42	02/20/15 17:31	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-3(A,B,C,D)
Date Collected: 02/13/15 13:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-15
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	18		0.050		mg/L		02/20/15 13:42	02/20/15 17:46	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-4(A,B,C,D)
Date Collected: 02/13/15 12:35
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-20
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.0		0.050		mg/L		02/20/15 09:36	02/20/15 17:55	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-203-3(A,B,C,D)
Date Collected: 02/13/15 10:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-35
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.4		0.050		mg/L		02/20/15 13:42	02/20/15 16:47	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-203-4(A,B,C,D)
Date Collected: 02/13/15 09:56
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-40
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	64		0.050		mg/L		02/20/15 13:42	02/20/15 16:52	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-6(A,B,C,D)
Date Collected: 02/13/15 12:05
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-50
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	29		0.050		mg/L		02/20/15 13:42	02/20/15 17:56	1

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-203-5(A,B,C,D)
Date Collected: 02/13/15 11:42
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-55
Matrix: Solid

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.4		0.050		mg/L		02/20/15 16:04	02/20/15 17:22	1
Nickel	9.8		0.10		mg/L		02/20/15 16:04	02/20/15 17:22	1
Chromium	1.0		0.10		mg/L		02/20/15 16:04	02/20/15 17:22	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-176265/1-A
Matrix: Solid
Analysis Batch: 176318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176265

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050		mg/L		02/20/15 09:36	02/20/15 17:09	1

Lab Sample ID: LCS 720-176265/2-A
Matrix: Solid
Analysis Batch: 176318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.953		mg/L		95	80 - 120

Lab Sample ID: LCSD 720-176265/3-A
Matrix: Solid
Analysis Batch: 176318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 176265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.934		mg/L		93	80 - 120	2	20

Lab Sample ID: MB 720-176291/1-A
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 176291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050		mg/L		02/20/15 13:42	02/20/15 15:48	1
Nickel	ND		0.010		mg/L		02/20/15 13:42	02/20/15 15:48	1
Chromium	ND		0.010		mg/L		02/20/15 13:42	02/20/15 15:48	1

Lab Sample ID: LCS 720-176291/2-A
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 176291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.922		mg/L		92	80 - 120
Nickel	1.00	0.921		mg/L		92	80 - 120
Chromium	1.00	0.925		mg/L		93	80 - 120

Lab Sample ID: LCSD 720-176291/3-A
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 176291

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.927		mg/L		93	80 - 120	1	20
Nickel	1.00	0.927		mg/L		93	80 - 120	1	20
Chromium	1.00	0.936		mg/L		94	80 - 120	1	20

Lab Sample ID: LB 720-176189/1-B
Matrix: Solid
Analysis Batch: 176318

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 176265

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.050		mg/L		02/20/15 09:36	02/20/15 17:15	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LB4 720-176082/1-B
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: Method Blank
Prep Type: STLC Citrate
Prep Batch: 176291

Analyte	LB4 Result	LB4 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.050		mg/L		02/20/15 13:42	02/20/15 15:53	1
Nickel	ND		0.10		mg/L		02/20/15 13:42	02/20/15 15:53	1
Chromium	ND		0.10		mg/L		02/20/15 13:42	02/20/15 15:53	1

Lab Sample ID: LB4 720-176111/1-B
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: Method Blank
Prep Type: STLC Citrate
Prep Batch: 176291

Analyte	LB4 Result	LB4 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.050		mg/L		02/20/15 16:04	02/20/15 17:17	1
Nickel	ND		0.10		mg/L		02/20/15 16:04	02/20/15 17:17	1
Chromium	ND		0.10		mg/L		02/20/15 16:04	02/20/15 17:17	1

Lab Sample ID: 720-63002-5 MS
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: STLC Citrate
Prep Batch: 176291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	48		10.0	56.3	4	mg/L		84	75 - 125
Nickel	4.8		10.0	13.7		mg/L		89	75 - 125
Chromium	0.72		10.0	10.0		mg/L		93	75 - 125

Lab Sample ID: 720-63002-5 MSD
Matrix: Solid
Analysis Batch: 176319

Client Sample ID: SP-202-1(A.B.C.D)
Prep Type: STLC Citrate
Prep Batch: 176291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	48		10.0	56.2	4	mg/L		84	75 - 125	0	20
Nickel	4.8		10.0	13.7		mg/L		89	75 - 125	0	20
Chromium	0.72		10.0	10.1		mg/L		94	75 - 125	1	20

Metals

Leach Batch: 176082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-5 MS	SP-202-1(A.B.C.D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-5 MSD	SP-202-1(A.B.C.D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-10	SP-202-2(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-15	SP-202-3(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-35	SP-203-3(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-40	SP-203-4(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
720-63002-50	SP-202-6(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
LB4 720-176082/1-B	Method Blank	STLC Citrate	Solid	CA WET Citrate	

Leach Batch: 176111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-55	SP-203-5(A,B,C,D)	STLC Citrate	Solid	CA WET Citrate	
LB4 720-176111/1-B	Method Blank	STLC Citrate	Solid	CA WET Citrate	

Leach Batch: 176189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-20	SP-202-4(A,B,C,D)	TCLP	Solid	1311	
LB 720-176189/1-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 176265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-20	SP-202-4(A,B,C,D)	TCLP	Solid	3010A	176189
LB 720-176189/1-B	Method Blank	TCLP	Solid	3010A	176189
LCS 720-176265/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 720-176265/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
MB 720-176265/1-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 176291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	STLC Citrate	Solid	3005A	176082
720-63002-5 MS	SP-202-1(A.B.C.D)	STLC Citrate	Solid	3005A	176082
720-63002-5 MSD	SP-202-1(A.B.C.D)	STLC Citrate	Solid	3005A	176082
720-63002-10	SP-202-2(A,B,C,D)	STLC Citrate	Solid	3005A	176082
720-63002-15	SP-202-3(A,B,C,D)	STLC Citrate	Solid	3005A	176082
720-63002-35	SP-203-3(A,B,C,D)	STLC Citrate	Solid	3005A	176082
720-63002-40	SP-203-4(A,B,C,D)	STLC Citrate	Solid	3005A	176082
720-63002-50	SP-202-6(A,B,C,D)	STLC Citrate	Solid	3005A	176082
720-63002-55	SP-203-5(A,B,C,D)	STLC Citrate	Solid	3005A	176111
LB4 720-176082/1-B	Method Blank	STLC Citrate	Solid	3005A	176082
LB4 720-176111/1-B	Method Blank	STLC Citrate	Solid	3005A	176111
LCS 720-176291/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
LCSD 720-176291/3-A	Lab Control Sample Dup	Total Recoverable	Solid	3005A	
MB 720-176291/1-A	Method Blank	Total Recoverable	Solid	3005A	

Analysis Batch: 176318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-20	SP-202-4(A,B,C,D)	TCLP	Solid	6010B	176265
LB 720-176189/1-B	Method Blank	TCLP	Solid	6010B	176265
LCS 720-176265/2-A	Lab Control Sample	Total/NA	Solid	6010B	176265
LCSD 720-176265/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	176265

Metals (Continued)

Analysis Batch: 176318 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-176265/1-A	Method Blank	Total/NA	Solid	6010B	176265

Analysis Batch: 176319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	STLC Citrate	Solid	6010B	176291
720-63002-5 MS	SP-202-1(A.B.C.D)	STLC Citrate	Solid	6010B	176291
720-63002-5 MSD	SP-202-1(A.B.C.D)	STLC Citrate	Solid	6010B	176291
720-63002-10	SP-202-2(A,B,C,D)	STLC Citrate	Solid	6010B	176291
720-63002-15	SP-202-3(A,B,C,D)	STLC Citrate	Solid	6010B	176291
720-63002-35	SP-203-3(A,B,C,D)	STLC Citrate	Solid	6010B	176291
720-63002-40	SP-203-4(A,B,C,D)	STLC Citrate	Solid	6010B	176291
720-63002-50	SP-202-6(A,B,C,D)	STLC Citrate	Solid	6010B	176291
720-63002-55	SP-203-5(A,B,C,D)	STLC Citrate	Solid	6010B	176291
LB4 720-176082/1-B	Method Blank	STLC Citrate	Solid	6010B	176291
LB4 720-176111/1-B	Method Blank	STLC Citrate	Solid	6010B	176291
LCS 720-176291/2-A	Lab Control Sample	Total Recoverable	Solid	6010B	176291
LCSD 720-176291/3-A	Lab Control Sample Dup	Total Recoverable	Solid	6010B	176291
MB 720-176291/1-A	Method Blank	Total Recoverable	Solid	6010B	176291

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-202-1(A.B.C.D)

Lab Sample ID: 720-63002-5

Date Collected: 02/13/15 12:50

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 16:22	CAM	TAL PLS

Client Sample ID: SP-202-2(A,B,C,D)

Lab Sample ID: 720-63002-10

Date Collected: 02/13/15 13:00

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 17:31	CAM	TAL PLS

Client Sample ID: SP-202-3(A,B,C,D)

Lab Sample ID: 720-63002-15

Date Collected: 02/13/15 13:15

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 17:46	CAM	TAL PLS

Client Sample ID: SP-202-4(A,B,C,D)

Lab Sample ID: 720-63002-20

Date Collected: 02/13/15 12:35

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			176189	02/19/15 13:25	JCR	TAL PLS
TCLP	Prep	3010A			176265	02/20/15 09:36	JCR	TAL PLS
TCLP	Analysis	6010B		1	176318	02/20/15 17:55	SLK	TAL PLS

Client Sample ID: SP-203-3(A,B,C,D)

Lab Sample ID: 720-63002-35

Date Collected: 02/13/15 10:15

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 16:47	CAM	TAL PLS

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Client Sample ID: SP-203-4(A,B,C,D)

Lab Sample ID: 720-63002-40

Date Collected: 02/13/15 09:56

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 16:52	CAM	TAL PLS

Client Sample ID: SP-202-6(A,B,C,D)

Lab Sample ID: 720-63002-50

Date Collected: 02/13/15 12:05

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176082	02/18/15 14:15	ECT	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 13:42	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 17:56	CAM	TAL PLS

Client Sample ID: SP-203-5(A,B,C,D)

Lab Sample ID: 720-63002-55

Date Collected: 02/13/15 11:42

Matrix: Solid

Date Received: 02/13/15 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			176111	02/18/15 16:35	ASB	TAL PLS
STLC Citrate	Prep	3005A			176291	02/20/15 16:04	ECT	TAL PLS
STLC Citrate	Analysis	6010B		1	176319	02/20/15 17:22	CAM	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Method Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-63002-5	SP-202-1(A.B.C.D)	Solid	02/13/15 12:50	02/13/15 17:55
720-63002-10	SP-202-2(A,B,C,D)	Solid	02/13/15 13:00	02/13/15 17:55
720-63002-15	SP-202-3(A,B,C,D)	Solid	02/13/15 13:15	02/13/15 17:55
720-63002-20	SP-202-4(A,B,C,D)	Solid	02/13/15 12:35	02/13/15 17:55
720-63002-35	SP-203-3(A,B,C,D)	Solid	02/13/15 10:15	02/13/15 17:55
720-63002-40	SP-203-4(A,B,C,D)	Solid	02/13/15 09:56	02/13/15 17:55
720-63002-50	SP-202-6(A,B,C,D)	Solid	02/13/15 12:05	02/13/15 17:55
720-63002-55	SP-203-5(A,B,C,D)	Solid	02/13/15 11:42	02/13/15 17:55

Smith, Micah 720-63002-3 RUSH

From: Hanzel-Durbin, Justin [JHanzel-Durbin@trcsolutions.com]
Sent: Wednesday, February 18, 2015 11:34 AM
To: Smith, Micah; Sharma, Dimple
Cc: Fanelli, Eileen
Subject: RE: TestAmerica report and EDD files from 720-63002-1 Doyle Drive-Presidio Trust

Looking at these numbers could there be a chance that the antimony levels are artificially high due to the very high levels of other metals, specifically in the 203 samples?

Also please note that the last sample on the COC should be SP-203-6 (A,B,C,D) which has lab ID 720-63002-60.

Please also run the following samples on rush so we can see the results by Friday.

- TCLP for lead on SP-202-4 (A,B,C,D)
- STCL for lead on SP-202-1 (A,B,C,D), SP-202-2 (A,B,C,D), SP-202-3 (A,B,C,D), SP-202-6 (A,B,C,D)
- STLC for chromium and nickel on SP-202-1 (A,B,C,D)

- STCL for lead on SP-203-3 (A,B,C,D), SP-203-4 (A,B,C,D), SP-203-5 (A,B,C,D)
- STLC for chromium and nickel on SP-203-5 (A,B,C,D)

Please let me know if you have any questions
Justin

Justin Hanzel-Durbin
Senior Engineer/Project Manager
Environmental/Remediation

TRC
Results you can rely on

101 Second Street, Suite 300, San Francisco, CA 94105
T: 415.644.3050 | F: 415.541.9378 | Cell: 415.209.3326

Follow us on LinkedIn or Twitter | www.trcsolutions.com

JHanzel-Durbin@trcsolutions.com

720-63002 Chain of Custody

From: Smith, Micah [mailto:micah.smith@testamericainc.com]
Sent: Tuesday, February 17, 2015 7:16 PM
To: Hanzel-Durbin, Justin
Subject: TestAmerica report and EDD files from 720-63002-1 Doyle Drive-Presidio Trust

Hello,

Attached please find the report and EDD files for job 720-63002-1; Doyle Drive-Presidio Trust

Please feel free to contact me or your PM Dimple Sharma if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received

from TestAmerica on this project by visiting our website at: Project Feedback

MICAH SMITH
Project Manager II

TestAmerica Pleasanton
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 925.484.1919
www.testamericainc.com

Reference: [178142]
Attachments: 2

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 720-63002-3

Login Number: 63002

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Gonzales, Justinn

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	SEE NCM
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-63002-2
Client Project/Site: Doyle Drive-Presidio Trust

For:
TRC Solutions, Inc.
101 2nd street
Suite 300
San Francisco, California 94105

Attn: Justin Hanzel-Durbin

Authorized for release by:
2/23/2015 5:51:15 PM
Micah Smith, Project Manager II
(925)484-1919
micah.smith@testamericainc.com

Designee for

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

Table of Contents

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Job ID: 720-63002-2

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-63002-2

Comments
No additional comments.

Receipt
The samples were received on 2/13/2015 5:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 6.2º C and 6.5º C.

Except:

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

Last sample on the COC is the same as the previous sample name. SP-203-5. The last one should be SP-203-6, which is what the containers read.

GC Semi VOA
Method(s) 8015B: The method blank for batch 176198 contained C10-C28 above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 8015B: The following sample(s) required a dilution due to the nature of the sample matrix: SP-203-3(A,B,C,D) (720-63002-35), SP-203-6(A,B,C,D) (720-63002-60). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8015B: There was no MS/MSD reported in batch 176198 because the parent sample required re-extraction.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-1(A.B.C.D) — Lab Sample ID: 720-63002-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	63	B	3.8		mg/Kg	3	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	260		190		mg/Kg	3	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-202-2(A,B,C,D) — Lab Sample ID: 720-63002-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	41	B	1.2		mg/Kg	1	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	170		59		mg/Kg	1	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-202-3(A,B,C,D) — Lab Sample ID: 720-63002-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	34	B	1.2		mg/Kg	1	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	100		58		mg/Kg	1	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-202-4(A,B,C,D) — Lab Sample ID: 720-63002-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	82	B	3.8		mg/Kg	3	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	290		190		mg/Kg	3	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-203-1(A,B,C,D) — Lab Sample ID: 720-63002-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	30	B	1.2		mg/Kg	1	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	100		60		mg/Kg	1	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-203-2(A,B,C,D) — Lab Sample ID: 720-63002-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	85	B	3.9		mg/Kg	3	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	320		200		mg/Kg	3	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-203-3(A,B,C,D) — Lab Sample ID: 720-63002-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	96	B	6.3		mg/Kg	5	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	350		310		mg/Kg	5	☼	8015B	Silica Gel Cleanup

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-4(A,B,C,D) — Lab Sample ID: 720-63002-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	110	B	6.2		mg/Kg	5	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	470		310		mg/Kg	5	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-202-5(A,B,C,D) — Lab Sample ID: 720-63002-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	65	B	3.7		mg/Kg	3	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	260		180		mg/Kg	3	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-202-6(A,B,C,D) — Lab Sample ID: 720-63002-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	59	B	6.0		mg/Kg	5	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	320		300		mg/Kg	5	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-203-5(A,B,C,D) — Lab Sample ID: 720-63002-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	30	B	1.3		mg/Kg	1	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	110		66		mg/Kg	1	☼	8015B	Silica Gel Cleanup

Client Sample ID: SP-203-6(A,B,C,D) — Lab Sample ID: 720-63002-60

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	80	B	5.7		mg/Kg	5	☼	8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	440		290		mg/Kg	5	☼	8015B	Silica Gel Cleanup

This Detection Summary does not include radiochemical test results.

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-1(A.B.C.D)
Date Collected: 02/13/15 12:50
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-5
Matrix: Solid
Percent Solids: 79.0

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	63	B	3.8		mg/Kg	☼	02/19/15 14:37	02/20/15 19:16	3
Motor Oil Range Organics [C24-C36]	260		190		mg/Kg	☼	02/19/15 14:37	02/20/15 19:16	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.3*		*0 - 1*	*02/19/15 14:37*	*02/20/15 19:16*	*3*
p-Terphenyl	*62*		*38 - 148*	*02/19/15 14:37*	*02/20/15 19:16*	*3*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-2(A,B,C,D)
Date Collected: 02/13/15 13:00
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-10
Matrix: Solid
Percent Solids: 83.7

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	41	B	1.2		mg/Kg	☼	02/19/15 14:37	02/20/15 18:09	1
Motor Oil Range Organics [C24-C36]	170		59		mg/Kg	☼	02/19/15 14:37	02/20/15 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.6*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:09*	*1*
p-Terphenyl	*78*		*38 - 148*	*02/19/15 14:37*	*02/20/15 18:09*	*1*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-3(A,B,C,D)
Date Collected: 02/13/15 13:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-15
Matrix: Solid
Percent Solids: 84.5

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	34	B	1.2		mg/Kg	☼	02/19/15 14:37	02/20/15 16:50	1
Motor Oil Range Organics [C24-C36]	100		58		mg/Kg	☼	02/19/15 14:37	02/20/15 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.3*		*0 - 1*	*02/19/15 14:37*	*02/20/15 16:50*	*1*
p-Terphenyl	*58*		*38 - 148*	*02/19/15 14:37*	*02/20/15 16:50*	*1*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-4(A,B,C,D)
Date Collected: 02/13/15 12:35
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-20
Matrix: Solid
Percent Solids: 78.0

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	82	B	3.8		mg/Kg	☼	02/19/15 14:37	02/20/15 17:48	3
Motor Oil Range Organics [C24-C36]	290		190		mg/Kg	☼	02/19/15 14:37	02/20/15 17:48	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.6*		*0 - 1*	*02/19/15 14:37*	*02/20/15 17:48*	*3*
p-Terphenyl	*46*		*38 - 148*	*02/19/15 14:37*	*02/20/15 17:48*	*3*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-1(A,B,C,D)
Date Collected: 02/13/15 10:55
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-25
Matrix: Solid
Percent Solids: 81.9

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	30	B	1.2		mg/Kg	☼	02/19/15 14:37	02/20/15 17:19	1
Motor Oil Range Organics [C24-C36]	100		60		mg/Kg	☼	02/19/15 14:37	02/20/15 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.2*		*0 - 1*	*02/19/15 14:37*	*02/20/15 17:19*	*1*
p-Terphenyl	*68*		*38 - 148*	*02/19/15 14:37*	*02/20/15 17:19*	*1*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-2(A,B,C,D)
Date Collected: 02/13/15 10:35
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-30
Matrix: Solid
Percent Solids: 76.1

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	85	B	3.9		mg/Kg	☼	02/19/15 14:37	02/20/15 18:18	3
Motor Oil Range Organics [C24-C36]	320		200		mg/Kg	☼	02/19/15 14:37	02/20/15 18:18	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.4*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:18*	*3*
p-Terphenyl	*59*		*38 - 148*	*02/19/15 14:37*	*02/20/15 18:18*	*3*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-3(A,B,C,D)
Date Collected: 02/13/15 10:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-35
Matrix: Solid
Percent Solids: 79.8

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	96	B	6.3		mg/Kg	☼	02/19/15 14:37	02/20/15 18:47	5
Motor Oil Range Organics [C24-C36]	350		310		mg/Kg	☼	02/19/15 14:37	02/20/15 18:47	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:47*	*5*
p-Terphenyl	*0*	*X D*	*38 - 148*	*02/19/15 14:37*	*02/20/15 18:47*	*5*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-4(A,B,C,D)
Date Collected: 02/13/15 09:56
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-40
Matrix: Solid
Percent Solids: 80.8

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	110	B	6.2		mg/Kg	☼	02/19/15 14:37	02/20/15 18:47	5
Motor Oil Range Organics [C24-C36]	470		310		mg/Kg	☼	02/19/15 14:37	02/20/15 18:47	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:47*	*5*
p-Terphenyl	*0*	*X*	*38 - 148*	*02/19/15 14:37*	*02/20/15 18:47*	*5*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-5(A,B,C,D)
Date Collected: 02/13/15 12:20
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-45
Matrix: Solid
Percent Solids: 81.6

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	65	B	3.7		mg/Kg	☼	02/19/15 14:37	02/23/15 13:59	3
Motor Oil Range Organics [C24-C36]	260		180		mg/Kg	☼	02/19/15 14:37	02/23/15 13:59	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.5*		*0 - 1*	*02/19/15 14:37*	*02/23/15 13:59*	*3*
p-Terphenyl	*61*		*38 - 148*	*02/19/15 14:37*	*02/23/15 13:59*	*3*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-202-6(A,B,C,D)
Date Collected: 02/13/15 12:05
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-50
Matrix: Solid
Percent Solids: 82.6

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	59	B	6.0		mg/Kg	☼	02/19/15 14:37	02/20/15 18:18	5
Motor Oil Range Organics [C24-C36]	320		300		mg/Kg	☼	02/19/15 14:37	02/20/15 18:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:18*	*5*
p-Terphenyl	*0*	*X*	*38 - 148*	*02/19/15 14:37*	*02/20/15 18:18*	*5*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-5(A,B,C,D)
Date Collected: 02/13/15 11:42
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-55
Matrix: Solid
Percent Solids: 74.9

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	30	B	1.3		mg/Kg	☼	02/19/15 14:37	02/20/15 16:50	1
Motor Oil Range Organics [C24-C36]	110		66		mg/Kg	☼	02/19/15 14:37	02/20/15 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.07*		*0 - 1*	*02/19/15 14:37*	*02/20/15 16:50*	*1*
p-Terphenyl	*56*		*38 - 148*	*02/19/15 14:37*	*02/20/15 16:50*	*1*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Client Sample ID: SP-203-6(A,B,C,D)
Date Collected: 02/13/15 11:15
Date Received: 02/13/15 17:55

Lab Sample ID: 720-63002-60
Matrix: Solid
Percent Solids: 86.6

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	80	B	5.7		mg/Kg	☼	02/19/15 14:37	02/20/15 18:58	5
Motor Oil Range Organics [C24-C36]	440		290		mg/Kg	☼	02/19/15 14:37	02/20/15 18:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 1*	*02/19/15 14:37*	*02/20/15 18:58*	*5*
p-Terphenyl	*0*	*X D*	*38 - 148*	*02/19/15 14:37*	*02/20/15 18:58*	*5*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-176198/1-A
Matrix: Solid
Analysis Batch: 176340

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 176198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.56		1.0		mg/Kg		02/19/15 14:37	02/21/15 16:30	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		02/19/15 14:37	02/21/15 16:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.03*		*0 - 1*	*02/19/15 14:37*	*02/21/15 16:30*	*1*
p-Terphenyl	*90*		*38 - 148*	*02/19/15 14:37*	*02/21/15 16:30*	*1*

Lab Sample ID: LCS 720-176198/2-A
Matrix: Solid
Analysis Batch: 176254

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 176198

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			82.2	79.8		mg/Kg		97	36 - 112		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*119*		*38 - 148*

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

GC Semi VOA

Prep Batch: 176198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Silica Gel Cleanup	Solid	3546	
720-63002-10	SP-202-2(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-15	SP-202-3(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-20	SP-202-4(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-25	SP-203-1(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-30	SP-203-2(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-35	SP-203-3(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-40	SP-203-4(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-45	SP-202-5(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-50	SP-202-6(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-55	SP-203-5(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
720-63002-60	SP-203-6(A,B,C,D)	Silica Gel Cleanup	Solid	3546	
LCS 720-176198/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	3546	
MB 720-176198/1-A	Method Blank	Silica Gel Cleanup	Solid	3546	

Analysis Batch: 176254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-60	SP-203-6(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
LCS 720-176198/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	8015B	176198

Analysis Batch: 176255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-10	SP-202-2(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198

Analysis Batch: 176266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-5	SP-202-1(A.B.C.D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-15	SP-202-3(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-20	SP-202-4(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-25	SP-203-1(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-30	SP-203-2(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-35	SP-203-3(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198

Analysis Batch: 176269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-40	SP-203-4(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-50	SP-202-6(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198
720-63002-55	SP-203-5(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198

Analysis Batch: 176340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-176198/1-A	Method Blank	Silica Gel Cleanup	Solid	8015B	176198

Analysis Batch: 176360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-63002-45	SP-202-5(A,B,C,D)	Silica Gel Cleanup	Solid	8015B	176198

Client Sample ID: SP-202-1(A.B.C.D)

Lab Sample ID: 720-63002-5

Date Collected: 02/13/15 12:50

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		3	176266	02/20/15 19:16	JXL	TAL PLS

Client Sample ID: SP-202-2(A,B,C,D)

Lab Sample ID: 720-63002-10

Date Collected: 02/13/15 13:00

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	176255	02/20/15 18:09	JXL	TAL PLS

Client Sample ID: SP-202-3(A,B,C,D)

Lab Sample ID: 720-63002-15

Date Collected: 02/13/15 13:15

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	176266	02/20/15 16:50	JXL	TAL PLS

Client Sample ID: SP-202-4(A,B,C,D)

Lab Sample ID: 720-63002-20

Date Collected: 02/13/15 12:35

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		3	176266	02/20/15 17:48	JXL	TAL PLS

Client Sample ID: SP-203-1(A,B,C,D)

Lab Sample ID: 720-63002-25

Date Collected: 02/13/15 10:55

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	176266	02/20/15 17:19	JXL	TAL PLS

Client Sample ID: SP-203-2(A,B,C,D)

Lab Sample ID: 720-63002-30

Date Collected: 02/13/15 10:35

Matrix: Solid

Date Received: 02/13/15 17:55

Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		3	176266	02/20/15 18:18	JXL	TAL PLS

Client Sample ID: SP-203-3(A,B,C,D)

Lab Sample ID: 720-63002-35
Date Collected: 02/13/15 10:15
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		5	176266	02/20/15 18:47	JXL	TAL PLS

Client Sample ID: SP-203-4(A,B,C,D)

Lab Sample ID: 720-63002-40
Date Collected: 02/13/15 09:56
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		5	176269	02/20/15 18:47	JXL	TAL PLS

Client Sample ID: SP-202-5(A,B,C,D)

Lab Sample ID: 720-63002-45
Date Collected: 02/13/15 12:20
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		3	176360	02/23/15 13:59	JXL	TAL PLS

Client Sample ID: SP-202-6(A,B,C,D)

Lab Sample ID: 720-63002-50
Date Collected: 02/13/15 12:05
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		5	176269	02/20/15 18:18	JXL	TAL PLS

Client Sample ID: SP-203-5(A,B,C,D)

Lab Sample ID: 720-63002-55
Date Collected: 02/13/15 11:42
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 74.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	176269	02/20/15 16:50	JXL	TAL PLS

Client Sample ID: SP-203-6(A,B,C,D)

Lab Sample ID: 720-63002-60
Date Collected: 02/13/15 11:15
Matrix: Solid
Date Received: 02/13/15 17:55
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			176198	02/19/15 14:37	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		5	176254	02/20/15 18:58	JXL	TAL PLS

Lab Chronicle

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Method Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: TRC Solutions, Inc.
Project/Site: Doyle Drive-Presidio Trust

TestAmerica Job ID: 720-63002-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-63002-5	SP-202-1(A.B.C.D)	Solid	02/13/15 12:50	02/13/15 17:55
720-63002-10	SP-202-2(A,B,C,D)	Solid	02/13/15 13:00	02/13/15 17:55
720-63002-15	SP-202-3(A,B,C,D)	Solid	02/13/15 13:15	02/13/15 17:55
720-63002-20	SP-202-4(A,B,C,D)	Solid	02/13/15 12:35	02/13/15 17:55
720-63002-25	SP-203-1(A,B,C,D)	Solid	02/13/15 10:55	02/13/15 17:55
720-63002-30	SP-203-2(A,B,C,D)	Solid	02/13/15 10:35	02/13/15 17:55
720-63002-35	SP-203-3(A,B,C,D)	Solid	02/13/15 10:15	02/13/15 17:55
720-63002-40	SP-203-4(A,B,C,D)	Solid	02/13/15 09:56	02/13/15 17:55
720-63002-45	SP-202-5(A,B,C,D)	Solid	02/13/15 12:20	02/13/15 17:55
720-63002-50	SP-202-6(A,B,C,D)	Solid	02/13/15 12:05	02/13/15 17:55
720-63002-55	SP-203-5(A,B,C,D)	Solid	02/13/15 11:42	02/13/15 17:55
720-63002-60	SP-203-6(A,B,C,D)	Solid	02/13/15 11:15	02/13/15 17:55

TRC
CHAIN OF CUSTODY RECORD

☐ Mountain View Office
1920 Old Middlefield Rd
Mountain View, CA 94043
Tel: 650.967.2365
Fax: 650.967.2785

☒ San Francisco
101 2nd Street, Suite 300
San Francisco, CA 94105
Tel: 415.644.3000
Fax: 415.541.9378

720-63002 159359

2/23/2015

Project Name: Doyle Drive – Presidio Trust

Job No.: 230644.1 P.O. #: 77860

Report To: Jhanzel-durbin@trcsolutions.com

Sampler (print): K. Houston

Sampler (signature):

Electronic Deliverable Format Required: ☐ YES ☐ NO

EDF LOGCODE: ☐ TRCO

Global ID # :

Sample Type: (Soil) Groundwater Soil Vapor

Turnaround Requirements
- ☒ 5 Working Days (TPH analysis)
- ☐ 72 Hours
- ☒ 24 Hours (CAM17 only)
- ☐ 2-3 Hours RUSH
- ☐ STANDARD

QC Requirement:
- ☐ Level IV
- ☐ EDF
- ☒ Excel/EDD

RUSH

Sample I.D. (Field Point Name)	Date	Time	Lab I.D.	Sample Matrix	# of cont	Preserved?	☐ EPA 8260B –Full List ☐ Gas w/ ☐ BTEX ☐ MTBE	☒ TPH EPA 8015M* ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other	Metals: ☐ Lead ☐ LUFT ☐ RCRA	TRPH (418.1) with silica gel column	☐ Ferrous Iron Fe +2 (HACH 8146)	☐ Hexavalent Chromium (7199)	~~2-Propanol~~ Composite	VOCs	TO-15	Metals: ☒ CAM 17 (6010)	PCBs (8082)	PAHs (8310)	All analyses to be dry weight corrected
SP-202-1(A/B/C/D)	2/13/15	12:50		SOIL	4	ICE		X					X			X			X
SP-202-2(A/B/C/D)	"	13:00		"	"	"		X					X			X			X
SP-202-3(A/B/C/D)	"	13:15		"	"	"		X					X			X			X
SP-202-4(A/B/C/D)	"	12:35		"	"	"		X					X			X			X
SP-203-1(A/B/C/D)	"	10:55		"	"	"		X					X			X			X
SP-203-2(A/B/C/D)	"	10:35		"	"	"		X					X			X			X
SP-203-3(A/B/C/D)	"	10:15		"	"	"		X					X			X			X
SP-203-4(A/B/C/D)	"	9:56		"	"	"		X					X			X			X
SP-202-5(A/B/C/D)	"	12:20		"	"	"		X					X			X			X
SP-202-6(A/B/C/D)	"	12:05		"	"	"		X					X			X			X
SP-203-5(A/B/C/D)	"	11:42		"	"	"		X					X			X			X
SP-203-5(A/B/C/D)	"	11:15		"	"	"		X					X			X			X

Relinquished By:	Date: 2/13/15	Time: 15:00	Received By: ~~Relinquished~~ Date: Time:
Received ~~Relinquished~~ By:	Date: 13FEB15	Time: 1627	Received By: Date: 2-13-15 Time: 1755
Relinquished By:	Date:	Time:	Lab of Record:
			Received by Lab:

PM Initial:

Temp:

6.5/6.2°c

720-63002 Chain of Custody

Smith, Micah 720-63002-3 RUSH

From: Hanzel-Durbin, Justin [JHanzel-Durbin@trcsolutions.com]
Sent: Wednesday, February 18, 2015 11:34 AM
To: Smith, Micah; Sharma, Dimple
Cc: Fanelli, Eileen
Subject: RE: TestAmerica report and EDD files from 720-63002-1 Doyle Drive-Presidio Trust

Looking at these numbers could there be a chance that the antimony levels are artificially high due to the very high levels of other metals, specifically in the 203 samples?

Also please note that the last sample on the COC should be SP-203-6 (A,B,C,D) which has lab ID 720-63002-60.

Please also run the following samples on rush so we can see the results by Friday.

- TCLP for lead on SP-202-4 (A,B,C,D)
- STCL for lead on SP-202-1 (A,B,C,D), SP-202-2 (A,B,C,D), SP-202-3 (A,B,C,D), SP-202-6 (A,B,C,D)
- STLC for chromium and nickel on SP-202-1 (A,B,C,D)

- STCL for lead on SP-203-3 (A,B,C,D), SP-203-4 (A,B,C,D), SP-203-5 (A,B,C,D)
- STLC for chromium and nickel on SP-203-5 (A,B,C,D)

Please let me know if you have any questions
Justin

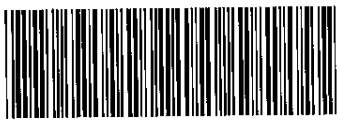
Justin Hanzel-Durbin
Senior Engineer/Project Manager
Environmental/Remediation

TRC Results you can rely on

101 Second Street, Suite 300, San Francisco, CA 94105
T: 415.644.3050 | F: 415.541.9378 | Cell: 415.209.3326

Follow us on LinkedIn or Twitter | www.trcsolutions.com

JHanzel-Durbin@trcsolutions.com


720-63002 Chain of Custody

From: Smith, Micah [mailto:micah.smith@testamericainc.com]
Sent: Tuesday, February 17, 2015 7:16 PM
To: Hanzel-Durbin, Justin
Subject: TestAmerica report and EDD files from 720-63002-1 Doyle Drive-Presidio Trust

Hello,

Attached please find the report and EDD files for job 720-63002-1; Doyle Drive-Presidio Trust

Please feel free to contact me or your PM Dimple Sharma if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received

from TestAmerica on this project by visiting our website at: Project Feedback

MICAH SMITH
Project Manager II

TestAmerica Pleasanton
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 925.484.1919
www.testamericainc.com

Reference: [178142]
Attachments: 2

Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 720-63002-2

Login Number: 63002

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Gonzales, Justinn

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	SEE NCM
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Technical Memorandum

To: Caltrans Department of Transportation
To: Jason Phillips, Dave Mitchell, Kelly Dehn, (FKJV)
From: Jeff Raines, P.E. (C51120), G.E. (2762), Andrea Brown, P.E. (C83327), and Kara Quan-Montgomery
Date: March 25, 2015
Subject: Hook Ramp Drainage Swale Sample Results, Doyle Drive Project, San Francisco, California

---

At the direction of Flatiron/Kiewit, Joint Venture (FKJV), Terraphase Engineering Inc. (Terraphase) has prepared this technical memorandum to fulfill the California Department of Transportation's (Caltrans) request to characterize the Hook Ramp drainage swale in the West Parkway (WP) area of the Doyle Drive Project (the Site). As the landowners, Caltrans and the Presidio Trust are responding to a Department of Toxic Substances Control (DTSC) requirement to characterize incinerator debris or impacted soil that is proposed to be left in place at the drainage swale. The characterization includes both chemical characterization and documentation of the extent of impact – vertical and horizontal.

Background

FKJV uncovered demolition debris and ash near the location of a former incinerator shown on maps of the Presidio drawn in the 1920s. Soil containing debris and ash excavated during construction of the drainage swale was sampled and analyzed for polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, and xylenes (BTEX), metals, and total petroleum hydrocarbons in the form of motor oil (TPHmo), diesel (TPHd), and gasoline (TPHg). Aside from the elevated chromium and nickel concentrations typically found in serpentine areas at the Site, analytical results showed elevated concentrations of lead. Approximately 1,000 cubic yards (CY) of soil, ash, and debris excavated from the drainage swale was disposed of at an appropriate landfill. Two soil stockpiles (SP-203 and SP-204) containing soil with minor amounts of ash and debris excavated from the drainage swale totaling an estimated 1,800 CY remain in the locations shown on Figure 1. Depending on the approved final design, approximately 18 inches of horticultural soil will be placed on top of the native soil.

Sample Collection

The soil remaining in place at the drainage swale was further characterized to better understand the lateral and horizontal extent of the soil containing elevated lead concentrations. In order to evaluate the extent of ash and debris from the demolished incinerator, Terraphase collected and submitted forty-one soil samples to a qualified analytical laboratory for lead analysis using EPA method 6020. Thirty samples were composites of the soil from 0 to 3 feet below the estimated depth of Horticultural Soil (below HS) (i.e. 1.5 to 4.5 feet below final grade [bfg]), and 11 samples were composites of the soil from 3 to 5 feet

below HS (i.e. 4.5 to 6.5 feet bfg). Samples were only collected from 3 to 5 feet below HS (4.5 to 6.5 feet bfg) if visual ash and debris was observed in the top 0 to 3 feet below HS (1.5 to 4.5 feet bfg). No ash or debris was noted between 0 to 3 feet below HS (1.5 to 4.5 feet bfg) in CS22, which was collected in the future median area of Highway 101, but a deeper sample was collected anyway because ash was observed down to 5 feet below HS (6.5 feet bfg) across the highway at sample locations CS3A, CS3, and CS8.

Samples were collected using a potholing method with an excavator on March 6, March 13, March 17, and March 19, 2015. Analytical Results are included in Appendix A.

Environmental Analytical Results

In-situ Lead Results

The maximum lead concentration detected in the 41 soil samples was 2,600 milligrams per kilogram (mg/kg), and the minimum lead concentration was 4.2 mg/kg. Ten samples contained lead above the California Human Health Screening Level (CHHSL) for commercial/industrial exposure to lead of 320 mg/kg. Three of those ten samples were in the 3 to 5 feet below HS (4.5 to 6.5 feet bfg) layer. Fourteen samples contained lead above the Presidio Ecological Criteria of 160 mg/kg. Seventeen samples contained lead above the Presidio Unrestricted Reuse Criteria of 82 mg/kg. A summary of the in-situ total lead results is included in Table 1.

Stockpile Lead Results

Soil excavated during construction of the drainage swale was analyzed for lead in the field using an XRF analyzer to assist in segregating soil containing high concentrations of lead. Soil with visible ash and debris or containing higher lead concentrations according to the XRF analyzer was separated into one stockpile, which was disposed of at an appropriate landfill. Soil with no visible ash and debris and containing lower lead concentrations according to the XRF analyzer was added to stockpiles SP-203 and SP-204. The locations of SP-203 and SP-204 are shown on Figure 1.

Stockpile SP-203 is estimated to contain 1,200 CY of soil. Terraphase collected one 4-point composite sample from the stockpile on January 30, 2015 (sample ID: HOOKRAMP-VDITCH-SP-2) and submitted the sample to an analytical laboratory in order to confirm the XRF analyzer results. Additional soil was excavated from the drainage swale and added to the stockpile on February 2, 2015 before the January 30, 2015 results were received. The lead concentration of the January 30, 2015 sample, which was now representative of the interior of the pile, was 1,500 mg/kg, which is above the commercial/industrial CHHSL.

On February 13, 2015, TRC collected six 4-point composite samples from the outer circumference of the stockpile (sample IDs: SP-203-1(A,B,C,D), SP-203-2(A,B,C,D), SP-203-3(A,B,C,D), SP-203-4(A,B,C,D), SP-203-5(A,B,C,D), and SP-203-6(A,B,C,D). The lead concentrations of the 6 samples collected by TRC from the exterior of the pile were all below the Presidio Ecological Criteria of 160 mg/kg. The TRC sample SP-203-4(A,B,C,D) (or “Cell 4”) was found to have a lead solubility threshold limit concentration (STLC) greater than 5 milligrams per liter. The total lead concentrations for each stockpile sample are displayed in Table 2.

Stockpile SP-204 is estimated to contain 600 CY. Terraphase collected one 4-point composite sample from stockpile SP-204 on January 30, 2015 (sample ID: HOOKRAMP-VDITCH-SP-3) and submitted the sample to an analytical laboratory in order to confirm the XRF analyzer results. As shown in Table 2, the lead concentration of the sample was 54 mg/kg, which is below the Presidio Unrestricted Reuse Criteria. Additional soil was excavated from the drainage swale and added to the stockpile on February 2, 2015. Terraphase collected another 4-point composite sample from stockpile SP-204 on February 4, 2015 (sample ID: HOOKRAMP-VDITCH-SP-3) and submitted the sample to an analytical laboratory in order to confirm the XRF analyzer results. The lead concentration of the sample was 86 mg/kg, which is 4 mg/kg higher than the Presidio Unrestricted Reuse Criteria.

Dioxins and Furans Results

On March 11, 2015, two grab soil samples were collected near the surface of sample locations CS11 and midway between CS12 and CS13 because most of the ash and debris disposed of previously was excavated from those sample locations. The samples were submitted to a qualified analytical laboratory for polychlorinated dibenzo-p-dioxins (dioxins) and dibenzofurans (furans) analysis using EPA method 8290. Analytical results are summarized in Table 3. The toxicity equivalence (TEQ) for each compound was calculated by multiplying the compound concentration by the 2005 Toxicity Equivalence Factors (TEF) in accordance with the EPA guidance (USEPA 2013). The sum of the TEQ concentrations are representative of urban background (California Department of Food & Agriculture 2004) and not an indication that dioxins and furans were generated at the site. Given the date range that the incinerator existed (the original Doyle Drive was constructed in 1933) it is unlikely that materials which could produce dioxins and furans during combustion (synthetic chloro-aromatics such as PVC, PCBs, chlorophenols) were incinerated (USEPA 2003). Hence, dioxins and furans are not considered constituents of concern within the incinerator ash and debris area.

Analysis of In-situ Lead Results

Samples containing elevated lead concentrations are split into three areas on Figure 1: Elevated Lead Area 1, Elevated Lead Area 2, and Elevated Lead Area 3. Calculating the 95% Upper Confidence Limit (UCL) for each area using only the data collected from 0 to 3 feet below HS (1.5 to 4.5 feet bfg) results in the following:

- Elevated Lead Area 1 has a surface area of approximately 2,331 square feet (259 CY). The 95% UCL cannot be calculated for this area because there is not enough sample data. The 95% UCL for the data outside Elevated Lead Area 1 is 269.7 mg/kg. This is below the commercial/industrial CHHSL of 320 mg/kg.
- Elevated Lead Area 1 and Elevated Lead Area 2 have a combined surface area of approximately 5,063 square feet (562 CY). The 95% UCL for the data within these areas is 2,106 mg/kg. The 95% UCL for the data outside Elevated Lead Areas 1 and 2 is 186.5 mg/kg, which is 26.5 mg/kg higher than the Presidio Ecological Criteria.
- Elevated Lead Area 1, Elevated Lead Area 2, and Elevated Lead Area 3 have a combined surface area of approximately 7,780 square feet (864 CY). The 95% UCL for the data within these areas is 1,372 mg/kg. The 95% UCL for the data outside Elevated Lead Areas 1, 2 and 3 is 81.6 mg/kg, which is below the Presidio Unrestricted Reuse Criteria of 82 mg/kg.

Please contact Jason Phillips (jphillips@flatironcorp.com) with any additional questions or comments.

References

1. California Department of Food & Agriculture. Evaluation of HEAVY METALS & DIOXIN in Inorganic Commercial Fertilizers and California Cropland Soils. December 2004. http://www.cdfa.ca.gov/is/docs/MetalsReport12-23-04.pdf

2. United States Environmental Protection Agency (USEPA). Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds National Academy Sciences (NAS) Review Draft, Part I: Estimating Exposure to Dioxin-Like Compounds, Volume 2: Properties, Environmental Levels, and Background Exposures, Chapter 6: Temporal Trends. December 2003. http://www.epa.gov/ncea/pdfs/dioxin/nas-review/pdfs/part1_vol2/dioxin_pt1_vol2_ch06_dec2003.pdf

3. USEPA. Use of Dioxin TEFs in Calculating Dioxin TEQs at CERCLA and RCRA Sites. May 2013. http://www.epa.gov/superfund/health/contaminants/dioxin/pdfs/Use_of_Dioxin_TEFs_in_Calculating_Dioxin_TEQs_at_CERCLA_and_RCRA_Sites.pdf

Tables

1. Summary of Sampling Results
2. Summary of Stockpile Lead Results
3. Summary of Dioxins and Furans Results

Figures

1. Hook Ramp Drainage Swale Sample Results

Appendices

A. Environmental Laboratory Reports

Tables

Table 1 - Summary of Sampling Results
Hook Ramp Drainage Swale Sample Results
Doyle Drive Project, San Francisco, CA

Sample ID	State Plane Coordinate System		Sample Depth (feet)	Total Lead Results (mg/kg)			
	Northing	Easting		All Data	Removal of Elevated Lead Area 1	Removal of Elevated Lead Areas 1 & 2	Removal of Elevated Lead Areas 1, 2, & 3
CS1-0-3	5992199.454	2121284.484	0-3	78	78	78	78
CS1-3-5			3-5	10	10	10	10
CS1A-0-3	5992180.057	2121300.154	0-3	42	42	42	42
CS2-0-3	5992190.198	2121270.119	0-3	54	54	54	54
CS2-3-5			3-5	19	19	19	19
CS2A-0-3	5992170.767	2121287.744	0-3	**95**	**95**	**95**	**95**
CS2A-3-5			3-5	50	50	50	50
CS3-0-3	5992178.911	2121252.824	0-3	***380***	--	--	--
CS3-3-5			3-5	***360***	***360***	***360***	***360***
CS3A-0-3	5992160.26	2121265.489	0-3	***2,600***	--	--	--
CS3A-3-5			3-5	***300***	***300***	***300***	***300***
CS3B-0-3	5992148.757	2121284.719	0-3	**140**	**140**	**140**	**140**
CS4-0-3	5992269.62	2121271.428	0-3	***190***	***190***	***190***	--
CS5-0-3	5992264.89	2121257.754	0-3	***570***	***570***	***570***	--
CS5-3-5			3-5	42	42	42	42
CS5A-0-3	5992251.733	2121275.065	0-3	***780***	***780***	***780***	--
CS5A-3-5			3-5	***500***	***500***	***500***	***500***
CS5B-0-3	5992228.547	2121287.013	0-3	55	55	55	55
CS6-0-3	5992252.206	2121250.814	0-3	4.2	4.2	4.2	4.2
CS7-0-3	5992237.895	2121222.111	0-3	***660***	***660***	--	--
CS7-3-5			3-5	12	12	12	12
CS7A-0-3	5992248.282	2121239.423	0-3	**140**	**140**	**140**	**140**
CS8-0-3	5992216.859	2121221.766	0-3	***1,700***	--	--	--
CS9-0-3	5992297.032	2121265.112	0-3	22	22	22	22
CS10-0-3	5992282.527	2121249.708	0-3	***180***	***180***	***180***	--
CS11-0-3	5992277.181	2121229.165	0-3	35	35	35	35
CS12-0-3	5992265.202	2121213.279	0-3	9.7	9.7	9.7	9.7
CS13-0-3	5992255.17	2121194.106	0-3	***880***	***880***	--	--
CS13-3-5			3-5	***750***	***750***	***750***	***750***
CS13A-0-3	5992278.021	2121180.257	0-3	52	52	52	52
CS13A-3-5			3-5	76	76	76	76
CS14-0-3	5992371.362	2121183.447	0-3	27	27	27	27
CS15-0-3	5992346.91	2121151.496	0-3	20	20	20	20
CS16-0-3	5992345.871	2121243.194	0-3	67	67	67	67
CS17-0-3	5992363.517	2121216.92	0-3	16	16	16	16
CS18-0-3	5992297.549	2121241.819	0-3	5.9	5.9	5.9	5.9
CS19-0-3	5992308.379	2121219.424	0-3	***190***	***190***	***190***	***190***
CS20-0-3	5992298.594	2121198.605	0-3	9.1	9.1	9.1	9.1
CS21-0-3	5992303.495	2121162.674	0-3	12	12	12	12
CS22-0-3	5992153.378	2121186.489	0-3	55	55	55	55
CS22-3-5			3-5	51	51	51	51
			95% UCL*	754.8	269.7	186.5	81.6

Presidio Unrestricted Reuse Criteria	**82**
Presidio Ecological Criteria	***160***
Commercial/Industrial CHHSL	***320***

Notes:
mg/Kg = milligrams per kilogram
mg/L = milligrams per liter
Exceeds Presidio Unrestricted Reuse Criteria
Exceeds Presidio Ecological Criteria
Exceeds Commercial/Industrial CHHSL
Removed Elevated Lead Sample Location
*95% UCL was calculated only using 0-3 feet depth sample data

Table 2 - Summary of Stockpile Lead Results
Hook Ramp Drainage Swale Sample Results
Doyle Drive Project, San Francisco, CA

Stockpile ID	Sample ID	Sample Date	All Total Lead Results (mg/kg)	Total Lead without Stockpile 203, Cell 4 (mg/kg)
SP-204	HOOKRAMP-VDITCH-SP-3	1/30/2015	54	54
SP-204	HOOKRAMP-VDITCH-SP-3	2/4/2015	**86**	**86**
SP-203	HOOKRAMP-VDITCH-SP-2	1/30/2015	***1,500***	***1,500***
SP-203	SP-203-1(A,B,C,D)	2/13/2015	**85**	**85**
SP-203	SP-203-2(A,B,C,D)	2/13/2015	**84**	**84**
SP-203	SP-203-3(A,B,C,D)	2/13/2015	**90**	**90**
SP-203	SP-203-4(A,B,C,D)	2/13/2015	**110**	--
SP-203	SP-203-5(A,B,C,D)	2/13/2015	**92**	**92**
SP-203	SP-203-6(A,B,C,D)	2/13/2015	**83**	**83**

Presidio Unrestricted Reuse Criteria	**82**
Presidio Ecological Criteria	***160***
Commercial/Industrial CHHSL	***320***

Notes:
mg/Kg = milligrams per kilogram
mg/L = milligrams per liter
Exceeds Presidio Unrestricted Reuse Criteria
Exceeds Presidio Ecological Criteria
Exceeds Commercial/Industrial CHHSL
Removed Elevated Lead Sample Location
*95% UCL values will change once step out sample results are received

Table 3 - Summary of Dioxins and Furans Results
Hook Ramp Drainage Swale Sample Results
Doyle Drive Project, San Francisco, CA

CS9-GRAB			
Dioxins			
Compound	**2005 TEF**	**Concentration (pg/g)**	**TEQ (pg/g)**
2,3,7,8-TCDD	1	0.545	0.545
1,2,3,7,8-PeCDD	1	0.618	0.618
1,2,3,4,7,8-HxCDD	0.1	0.536	0.0536
1,2,3,6,7,8-HxCDD	0.1	0.895	0.0895
1,2,3,7,8,9-HxCDD	0.1	0.99	0.099
1,2,3,4,6,7,8-HpCDD	0.01	9.34	0.0934
1,2,3,4,6,7,8,9-OCDD	0.0003	67.7	0.02031
		Sum	**1.51881**

Furans			
Compound	**2005 TEF**	**Concentration (pg/g)**	**TEQ (pg/g)**
2,3,7,8-TCDF	0.1	3.59	0.359
1,2,3,7,8-PeCDF	0.03	1.56	0.0468
2,3,4,7,8-PeCDF	0.3	4.79	1.437
1,2,3,4,7,8-HxCDF	0.1	2.09	0.209
1,2,3,6,7,8-HxCDF	0.1	2.31	0.231
2,3,4,6,7,8-HxCDF	0.1	3.69	0.369
1,2,3,7,8,9-HxCDF	0.1	0.702	0.0702
1,2,3,4,6,7,8-HpCDF	0.01	9.44	0.0944
1,2,3,4,7,8,9-HpCDF	0.01	1.11	0.0111
1,2,3,4,6,7,8,9-OCDF	0.0003	8.54	0.002562
		Sum	**2.830062**

Dioxins + Furans (pg/g)	**4.348872**
Urban Background (pg/g)	7-20

CS8-GRAB			
Dioxins			
Compound	**2005 TEF**	**Concentration (pg/g)**	**TEQ (pg/g)**
2,3,7,8-TCDD	1	0.656	0.656
1,2,3,7,8-PeCDD	1	1.03	1.03
1,2,3,4,7,8-HxCDD	0.1	0.641	0.0641
1,2,3,6,7,8-HxCDD	0.1	1.14	0.114
1,2,3,7,8,9-HxCDD	0.1	1.02	0.102
1,2,3,4,6,7,8-HpCDD	0.01	9.65	0.0965
1,2,3,4,6,7,8,9-OCDD	0.0003	56.6	0.01698
		Sum	**2.07958**

Furans			
Compound	**2005 TEF**	**Concentration (pg/g)**	**TEQ (pg/g)**
2,3,7,8-TCDF	0.1	4.56	0.456
1,2,3,7,8-PeCDF	0.03	2.3	0.069
2,3,4,7,8-PeCDF	0.3	7.43	2.229
1,2,3,4,7,8-HxCDF	0.1	3.3	0.33
1,2,3,6,7,8-HxCDF	0.1	3.41	0.341
2,3,4,6,7,8-HxCDF	0.1	4.66	0.466
1,2,3,7,8,9-HxCDF	0.1	0.869	0.0869
1,2,3,4,6,7,8-HpCDF	0.01	14	0.14
1,2,3,4,7,8,9-HpCDF	0.01	1.25	0.0125
1,2,3,4,6,7,8,9-OCDF	0.0003	10.7	0.00321
		Sum	**4.13361**

Dioxins + Furans (pg/g)	**6.21319**
Urban Background (pg/g)	7-20

Notes

pg/g = picograms per gram

2005 TEF = EPA recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessment
http://www.epa.gov/superfund/health/contaminants/dioxin/pdfs/Use_of_Dioxin_TEFs_in_Calculating_Dioxin_TEQs_at_CERCLA_and_RCRA_Sites.pdf

TEQ = Toxicity Equivalence

Urban Background = CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE, Evaluation of HEAVY METALS & DIOXIN in Inorganic Commercial Fertilizers and California Cropland Soils, December 2004

THIS PAGE LEFT INTENTIONALLY BLANK

Figures

Aerial imagery captured in July 2012.

SAFETY FIRST

terraphase engineering

CLIENT:	Flatiron Kiewit JV
PROJECT:	Doyle Drive Project
PROJECT NUMBER:	0068.001.012

Hook Ramp Drainage Swale Sample Results DRAFT

FIGURE 1

File: J:\GIS Backup\GIS Data\0068 Flatiron\Excavations\Hook Ramp V-Ditch\fig-presidio-Drainage Swale Sampling Plan_0068.001.012-stepouts.mxd 3/24/2015 Created by: JK Checked by: AB

THIS PAGE LEFT INTENTIONALLY BLANK

From: Yam, David@DOT
Sent: Wednesday, April 08, 2015 3:19 PM
To: Tsuji, Denise@DTSC; Chow, George@DTSC
Cc: EFanelli@trcsolutions.com
Subject: Proposal for capping incinerator waste at Doyle drive Hook ramp
Importance: High

Hi Denise/George,

Here is a brief recap of what occurred following the discovery of incinerator waste at the Hook Ramp site;.

GENERAL

Stockpiles 202, 203 and 204

Initially, the contractor graded the site and created 3 Stockpiles (SP); 202,203 and 204. The Contractor tested the SPs and characterized SP 202 and 203 as Class 1 material with intentions to haul off the material to a disposal facility. SP 204 was tested and found to be reusable on site. The Department had SPs 202 and 203 re-characterized by TRC with Trust oversight to verify the characterization performed by the Contractor (see Presidio Doyle Drive SP 202-203 results (2)). The Department wanted to see if there were any opportunities to reuse Stockpile 202 and 203 onsite and to verify the Class 1 characterization determination by the Contractor. The Department's re-characterization results showed that SP 202 was indeed Class 1 material, but only a portion of SP 203 may be classified as Class 1 material. Out of the 6 cells tested in SP 203, only 1 cell had elevated lead concentrations (110 mg/kg) that could be considered a Class 1 waste if disposed of offsite (see Soil Characterization Email.pdf). Thus, there appears to be an opportunity to reuse SP 203 and 204 as a fill material to cap the incinerator waste. SP 202 was off hauled and disposed at a Class 1 facility.

Proposed Incinerator waste treatment

At the completion of rough grading of the site to desired contour elevations, the Contractor proposed in situ testing of the areas where the incinerator waste was initially found. The proposal was reviewed by the Trust and we met with DTSC to review Trust comments and to solicit DTSC feedback to the Contractor's proposal . The Department and Trust met with the Contractor and provided feedback (see presidio incinerator Sampling Plan CT DY cmts). The Contractor then performed the in situ testing (see Incinerator sample results.pdf). In general, 3 areas of elevated lead were found with varying elevated lead levels. The 95% UCL for the data outside Elevated Lead Area 1 is 269.7 mg/kg. This is below the commercial/industrial CHHSL of 320 mg/kg. This is the only elevated lead area the Contractor is proposing to place a high visibility mesh over the existing ground before backfilling.

With the determination that SP 203 and 204 are suitable for reuse at the hook ramp site, The Department requested that the Contractor develop a contour grading plan reflecting the spreading of the stockpiles to act as a cap over the incinerator waste. The Contractor developed a contour grading plan that spreads SP 203 and 204 along with a proposal to place 18inches of horticultural soil as a final treatment. The combination of spreading stockpiles 203 and 204 with the horticultural soil cap of 18" will provide a 2 foot minimum cover over the incinerator waste. The average depth of cover over the whole site is 3.4 feet. Along areas of the roadway adjacent to the incinerator waste, the waste will be

excavated and repositioned to deeper portions of the fill (see ‘Incinerator waste treatment proposal.pdf).

I believe that I have attached updated background testing and soil characterization information to date. Please review the Incinerator waste treatment proposal and let me know if you find the treatment proposal acceptable. The Contractor is awaiting feedback.

Thank you

Dave

Surrency, Ross

From: Yam, David@DOT <david.yam@dot.ca.gov>
Sent: Tuesday, April 14, 2015 2:39 PM
To: Fanelli, Eileen; Chow, George@DTSC
Cc: Myers, Perry@DTSC; Tsuji, Denise@DTSC; Larssen, Nina (nlarssen@presidiotrust.gov)
Subject: RE: Proposal for capping incinerator waste at Doyle drive Hook ramp (2)
Attachments: A2-R9-PZ gndwtr data April 2013.pdf; HighViaduct-Abut 7 pier drilling records.pdf; Hook Ramp borings 2012 02 09.pdf; Hook Ramp plan.pdf

Hi George, following up on Eileen's info, I have attached the following info ;

1. Hook Ramp plans

This plan identifies where Piezometer A2-R9-PZ is located (3/2008) and Abutment 7 in relation to the incinerator waste at the Hook Ramp.

2. A2-R9-PZ groundwater data

This table shows groundwater elevation collected in years 2008/2009. The ground elevation is 116.78. Groundwater was encountered at ELE 98.85 and 102.78. Note that Piezometer 34-0160-PZ is in the vicinity but no groundwater was encountered.

3. High Viaduct-Abutment 7 pier drilling records

The records show that no groundwater was encountered when the piers were drilled for the Abutment.

4. Hook Ramp borings

These plans show borings taken around the hook ramp area. R-11-001 thru 004 should cover the area in question. None of the borings indicated groundwater elevations according to our contractor.

The first sheet of the Terraphase drawing (not attached) with the incinerator waste polygons show spot elevations of the existing grade at the incinerator waste polygons. The purple and blue polygons range in elevation form 167 to 172 feet. I believe that the information shows that groundwater is pretty low in this area and not within 10 feet of current existing grade.

Dave

From: Fanelli, Eileen [mailto:EFanelli@trcsolutions.com]
Sent: Tuesday, April 14, 2015 2:29 PM
To: Chow, George@DTSC; Yam, David@DOT
Cc: Myers, Perry@DTSC; Tsuji, Denise@DTSC; Larssen, Nina (nlarssen@presidiotrust.gov)
Subject: RE: Proposal for capping incinerator waste at Doyle drive Hook ramp

George –

Attached is the most current map of the Presidio showing well locations. Most of these wells have been abandoned. Note the location of the BHW wells. Also attached are the data tables for those wells showing depth to groundwater. Depth varies by well – generally in excess of 10 to 20 feet. One well was historically dry. The wells are installed in fractured bedrock – so this is not surprising.

Let me know if you have any other questions or data needs.

Eileen Fanelli
RMD Office Practice Leader
TRC Solutions, Inc.
(949)341-7447 Office
(949)562-4122 Cell

Follow us on LinkedIn or Twitter | www.trcsolutions.com

From: Chow, George@DTSC [mailto:George.Chow@dtsc.ca.gov]
Sent: Tuesday, April 14, 2015 10:04 AM
To: Fanelli, Eileen; Yam, David@DOT
Cc: Myers, Perry@DTSC; Tsuji, Denise@DTSC; Larssen, Nina (nlarssen@presidiotrust.gov)
Subject: RE: Proposal for capping incinerator waste at Doyle drive Hook ramp

Thanks for the response. Do you have any information on depth to groundwater in this area, or would you be able to approximate it based on nearby information?

George

From: Fanelli, Eileen [mailto:EFanelli@trcsolutions.com]
Sent: Monday, April 13, 2015 3:33 PM
To: Chow, George@DTSC; Yam, David@DOT
Cc: Myers, Perry@DTSC; Tsuji, Denise@DTSC
Subject: RE: Proposal for capping incinerator waste at Doyle drive Hook ramp

George –

Responding for Dave Yam as TRC drafted the letter report on the stockpile characterization. Essentially, the stockpile soil, if used as part of site grading on the Doyle project, is not considered a waste. The STLC is a test to characterize waste or excess soil that is going to be disposed of as a waste. The STLC test was performed in the event the stockpile soil was determined to be excess to the project and disposed of at an off-site disposal facility.

Total lead at 110 mg/kg is slightly elevated relative to the unrestricted reuse value of 80 mg/kg, but within an acceptable risk to human and ecologic receptors based on the reuse location within the Doyle project (which is essentially the area it was excavated from). The STLC results are unusual given the total concentration, even so they are not applicable to soil reused on the Doyle project. The STLC test mimics the more acidic conditions found in landfills and disposal

sites. Ambient conditions at the Doyle site would not produce the low pH surface or ground waters that would leach lead from the soil. The Presidio has not had a site to my knowledge where lead was an issue in groundwater.

The above analysis is the basis for our statement in our March 2, 2015 letter report to Caltrans that the soil from SP-203 was acceptable for reuse within the Doyle Project.

Happy to discuss this further if you would like.

Eileen Fanelli
RMD Office Practice Leader
TRC Solutions, Inc.
(949)341-7447 Office
(949)562-4122 Cell

Follow us on LinkedIn or Twitter | www.trcsolutions.com

From: Chow, George@DTSC [mailto:George.Chow@dtsc.ca.gov]
Sent: Monday, April 13, 2015 3:03 PM
To: Yam, David@DOT
Cc: Fanelli, Eileen; Myers, Perry@DTSC; Tsuji, Denise@DTSC
Subject: RE: Proposal for capping incinerator waste at Doyle drive Hook ramp

Dave,

Thanks for submitting the proposal and associated drawings and sampling results.

The leachate test for SP203-4 exceeds the STLC of 5 mg/L at 64 mg/L. Could you please elaborate on why SP203 is considered reusable for placement onsite, despite this STLC exceedance? Specifically, why the reported leachability is not a concern?

Thanks very much,
George

From: Yam, David@DOT
Sent: Wednesday, April 08, 2015 3:19 PM
To: Tsuji, Denise@DTSC; Chow, George@DTSC
Cc: EFanelli@trcsolutions.com
Subject: Proposal for capping incinerator waste at Doyle drive Hook ramp
Importance: High

Hi Denise/George,

Here is a brief recap of what occurred following the discovery of incinerator waste at the Hook Ramp site;.

GENERAL

Stockpiles 202, 203 and 204

Initially, the contractor graded the site and created 3 Stockpiles (SP); 202,203 and 204. The Contractor tested the SPs and characterized SP 202 and 203 as Class 1 material with intentions to haul off the material to a disposal facility. SP 204 was tested and found to be reusable on site. The Department had SPs 202 and 203 re-characterized by TRC with Trust oversight to verify the characterization performed by the Contractor (see Presidio Doyle Drive SP 202-203 results (2)). The Department wanted to see if there were any opportunities to reuse Stockpile 202 and 203 onsite and to verify the Class 1 characterization determination by the Contractor. The Department's re-characterization results showed that SP 202 was indeed Class 1 material, but only a portion of SP 203 may be classified as Class 1 material. Out of the 6 cells tested in SP 203, only 1 cell had elevated lead concentrations (110 mg/kg) that could be considered a Class 1 waste if disposed of offsite (see Soil Characterization Email.pdf). Thus, there appears to be an opportunity to reuse SP 203 and 204 as a fill material to cap the incinerator waste. SP 202 was off hauled and disposed at a Class 1 facility.

Proposed Incinerator waste treatment

At the completion of rough grading of the site to desired contour elevations, the Contractor proposed in situ testing of the areas where the incinerator waste was initially found. The proposal was reviewed by the Trust and we met with DTSC to review Trust comments and to solicit DTSC feedback to the Contractor's proposal . The Department and Trust met with the Contractor and provided feedback (see presidio incinerator Sampling Plan CT DY cmts). The Contractor then performed the in situ testing (see Incinerator sample results.pdf). In general, 3 areas of elevated lead were found with varying elevated lead levels. The 95% UCL for the data outside Elevated Lead Area 1 is 269.7 mg/kg. This is below the commercial/industrial CHHSL of 320 mg/kg. This is the only elevated lead area the Contractor is proposing to place a high visibility mesh over the existing ground before backfilling.

With the determination that SP 203 and 204 are suitable for reuse at the hook ramp site, The Department requested that the Contractor develop a contour grading plan reflecting the spreading of the stockpiles to act as a cap over the incinerator waste. The Contractor developed a contour grading plan that spreads SP 203 and 204 along with a proposal to place 18inches of horticultural soil as a final treatment. The combination of spreading stockpiles 203 and 204 with the horticultural soil cap of 18" will provide a 2 foot minimum cover over the incinerator waste. The average depth of cover over the whole site is 3.4 feet. Along areas of the roadway adjacent to the incinerator waste, the waste will be excavated and repositioned to deeper portions of the fill (see 'Incinerator waste treatment proposal.pdf).

I believe that I have attached updated background testing and soil characterization information to date. Please review the Incinerator waste treatment proposal and let me know if you find the treatment proposal acceptable. The Contractor is awaiting feedback.

Thank you

Dave

TABLE 2: Groundwater Level Manual Measurements: Expanded Piezometers
Presidio Parkway Project, San Francisco, California

Piezometer	Date	Depth to Water from Top of Rim (feet)	Groundwater Elevation (feet, NAVD88)
A2-R2-PZ	3/28/2008	57.75 [1]	81.79
A2-R2-PZ	7/18/2008	57.85	81.69
A2-R2-PZ	5/13/2009	58.66	80.88
A2-R2-PZ	8/17/2009	58.77	80.77
A2-R2-PZ	11/10/2009	58.86	80.68
A2-R2-PZ	2/17/2010	NA [5]	NA
A2-R9-PZ	3/28/2008	14.00 [1]	102.78
A2-R9-PZ	7/18/2008	17.93	98.85
A2-R9-PZ	5/13/2009	14.16	102.62
A2-R9-PZ	8/17/2009	17.52	99.26
A2-R9-PZ	11/10/2009	NA [5]	NA
34-0160-B3-PZ	6/16/2008	Dry [1]	Dry
34-0160-B3-PZ	7/18/2008	Dry	Dry
34-0160-B3-PZ	8/17/2009	Dry	Dry
34-0160-B3-PZ	11/10/2009	Dry	Dry
34-0160-B3-PZ	2/17/2010	15.86 [8, 9]	79.64
34-0160-B3-PZ	5/25/2010	NA [5]	NA
34-0157NB-B4R-PZ	10/3/2008	16.75 [1]	21.19
34-0157NB-B4R-PZ	8/17/2009	15.38	22.56
34-0157NB-B4R-PZ	11/10/2009	NA [5]	NA
34-0157NB-B3-PZ	4/22/2009	15.32 [1]	19.96
34-0157NB-B3-PZ	5/6/2009	15.95	19.33
34-0157NB-B3-PZ	8/17/2009	15.63	19.65
34-0157NB-B3-PZ	11/10/2009	16.38	18.90
34-0157NB-B3-PZ	2/17/2010	NA [5]	NA
34-0157SB-B3L-PZ	6/11/2008	9.80 [1]	31.95
34-0157SB-B3L-PZ	7/18/2008	10.20	31.55
34-0157SB-B3L-PZ	8/17/2009	10.51	31.24
34-0157SB-B3L-PZ	11/10/2009	11.48	30.27
34-0157SB-B3L-PZ	2/17/2010	10.09	31.66
34-0157SB-B3L-PZ	5/25/2010	NA [5]	NA
34-0157NB-B3R-PZ	7/18/2008	20.15	11.66
34-0157NB-B3R-PZ	8/17/2009	20.91	10.90
34-0157NB-B3R-PZ	11/10/2009	NA [5]	NA
34-0157NB-B2A-PZ	4/22/2009	38.13 [1]	13.05
34-0157NB-B2A-PZ	5/6/2009	38.22	12.96
34-0157NB-B2A-PZ	8/17/2009	39.20	11.98
34-0157NB-B2A-PZ	11/10/2009	39.51	11.67
34-0157NB-B2A-PZ	2/17/2010	39.17	12.01
34-0157NB-B2A-PZ	5/25/2010	38.88	12.30
34-0157NB-B2A-PZ	8/10/2010	38.94	12.24
34-0157NB-B2A-PZ	11/3/2010	39.06	12.12
34-0157NB-B2A-PZ	2/9/2011	38.89	12.29
34-0157NB-B2A-PZ	5/9/2011	38.16	13.02
34-0157NB-B2A-PZ	8/9/2011	38.25	12.93
34-0157NB-B2A-PZ	11/17/2011	38.88	12.30

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
4	SF	101, 1	8.2/9.8, 6.9/7.	1	

W. Andrew Herlache — 11/7/11
GEOTECHNICAL PROFESSIONAL — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Andy HERLACHE — No. G.E. 2149 — Exp. 3/31/13 — GEOTECHNICAL — STATE OF CALIFORNIA

THE HNTB OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

HNTB CORPORATION
1111 BROADWAY
9TH FLOOR
OAKLAND, CA 94607

HNTB Corporation
Engineers Architects Planners

FUGRO CONSULTANTS, INC.
1000 BROADWAY
SUITE 440
OAKLAND, CA 94607

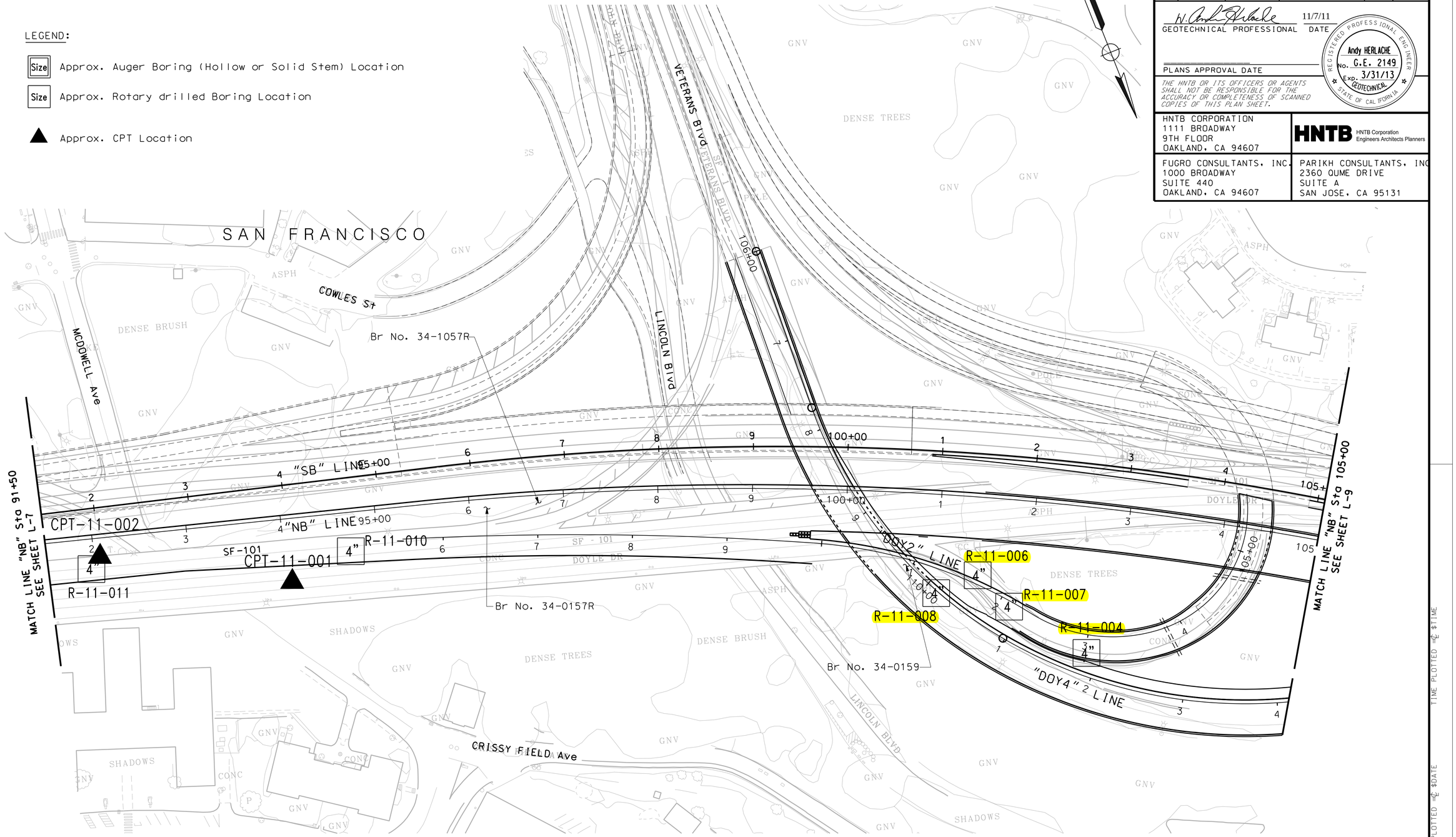
PARIKH CONSULTANTS, INC
2360 QUME DRIVE
SUITE A
SAN JOSE, CA 95131

LEGEND:

Size — Approx. Auger Boring (Hollow or Solid Stem) Location

Size — Approx. Rotary drilled Boring Location

▲ Approx. CPT Location



DESIGN OVERSIGHT	DRAWN BY	O. Gouthier	L. Bhangoo, G. van Etten V. Santos, A. Sperske FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Andrew Bro PROJECT ENGINEER	BRIDGE NO.	PRESIDIO PARKWAY PROJECT
SIGN OFF DATE	CHECKED BY	D. Wang	DATE: April 2011			POST MILES	LOG OF TEST BORING 8 OF 70

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU : 04242
EA : 1637U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

TIME PLOTTED =℄ $TIME
DATE PLOTTED =℄ $DATE
USERNAME =℄ $USER
FILE =℄ $REQUEST

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
4	SF	101, 1	8.2/9.8, 6.9/7	1	

W. Andy Herlache — GEOTECHNICAL PROFESSIONAL — 11/7/11 DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Andy HERLACHE — No. G.E. 2149 — Exp. 3/31/13 — GEOTECHNICAL — STATE OF CALIFORNIA

THE HNTB OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

HNTB CORPORATION
1111 BROADWAY
9TH FLOOR
OAKLAND, CA 94607

HNTB Corporation Engineers Architects Planners

FUGRO CONSULTANTS, INC.
1000 BROADWAY
SUITE 440
OAKLAND, CA 94607

PARIKH CONSULTANTS, INC
2360 QUME DRIVE
SUITE A
SAN JOSE, CA 95131

LEGEND:

- Size — Approx. Auger Boring (Hollow or Solid Stem) Location
- Size — Approx. Rotary drilled Boring Location
- ▲ — Approx. CPT Location

DESIGN OVERSIGHT	DRAWN BY	O. Gouthier	L. Bhangoo, G. van Etten V. Santos, A. Sperske	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Andrew Bro PROJECT ENGINEER	BRIDGE NO.
SIGN OFF DATE	CHECKED BY	D. Wang	FIELD INVESTIGATION BY: DATE: April 2011			POST MILES

PRESIDIO PARKWAY PROJECT

LOG OF TEST BORING 9 OF 70

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU : 04242
EA : 1637U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

FILE = $REQUEST

DATE PLOTTED = $DATE TIME PLOTTED = $TIME USERNAME = $USER

Notes:
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
Modified California Sampler: I.D. = 2.5"; O.D. = 3"
Hammer Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
4	SF	101,1	8.2/9.8,6.9/7.1		

N. Andy Herlache 11/7/11
GEOTECHNICAL PROFESSIONAL DATE

REGISTERED PROFESSIONAL ENGINEER
ANDY HERLACHE
No. G.E. 2149
Exp. 3/31/13
GEOTECHNICAL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

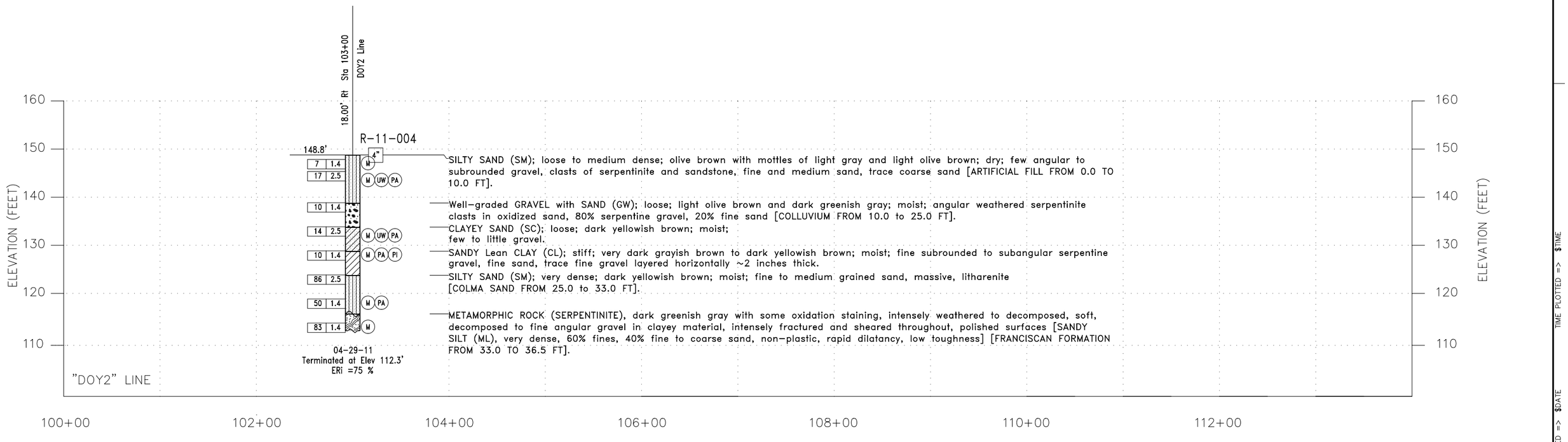
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

HNTB CORPORATION
1111 BROADWAY
9TH FLOOR
OAKLAND, CA 94607

HNTB Corporation
Engineers Architects Planners

FUGRO
1000 BROADWAY, SUITE 440
OAKLAND, CA 94607

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131



PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

DESIGN OVERSIGHT	DRAWN BY	OKSAN GOUTHIER	L. BHANGOO, G. VAN ETTEN V. SANTOS, A. SPERSKE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Andrew Bro	BRIDGE NO.	PRESIDIO PARKWAY PROJECT
SIGN OFF DATE	CHECKED BY	DAVID WANG	FIELD INVESTIGATION BY: DATE: APRIL & MAY 2011		PROJECT ENGINEER	POST MILES	LOG OF TEST BORINGS 65 OF 70

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU: 04242
EA: 1637U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

USERNAME => $USER
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
4	SF	101,1	8.2/9.8,6.9/7.1		

GEOTECHNICAL PROFESSIONAL — 11/7/11 DATE

REGISTERED PROFESSIONAL ENGINEER
ANDY HERLACHE
No. G.E. 2149
Exp. 3/31/13
GEOTECHNICAL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

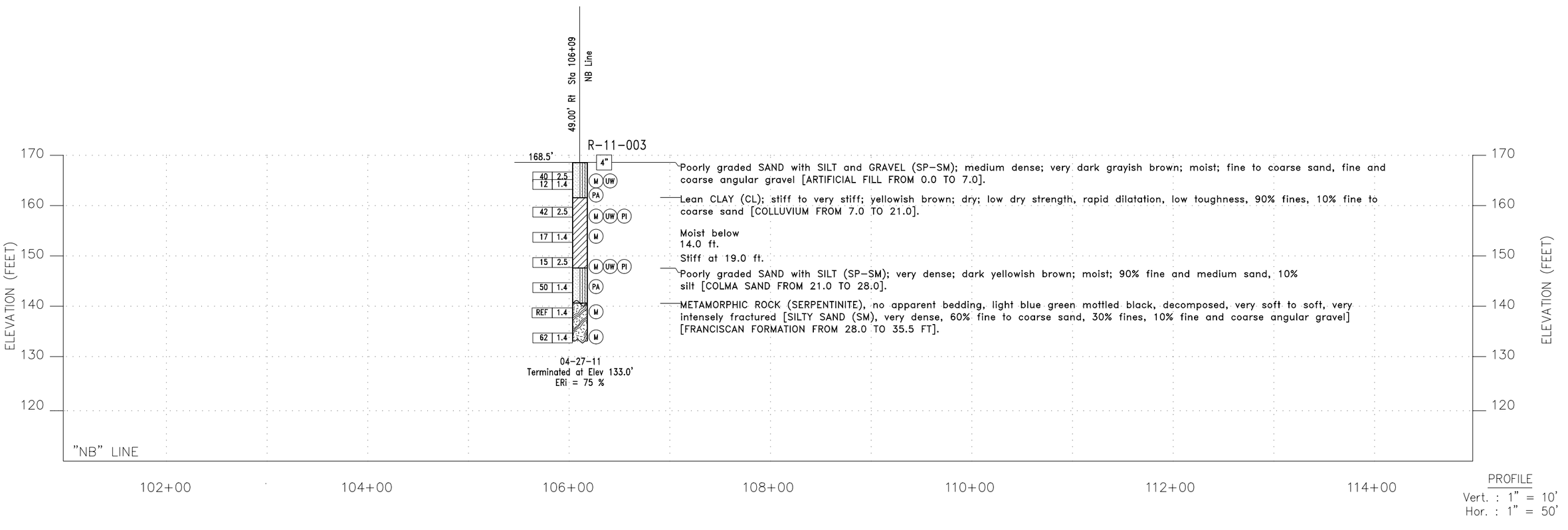
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

HNTB CORPORATION
1111 BROADWAY
9TH FLOOR
OAKLAND, CA 94607

HNTB Corporation
Engineers Architects Planners

FUGRO
1000 BROADWAY, SUITE 440
OAKLAND, CA 94607

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131



PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

DESIGN OVERSIGHT	DRAWN BY	OKSAN GOUTHIER	L. BHANGOO, G. VAN ETTEN V. SANTOS, A. SPERSKE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Andrew Bro	BRIDGE NO.	PRESIDIO PARKWAY PROJECT
SIGN OFF DATE	CHECKED BY	DAVID WANG	FIELD INVESTIGATION BY: DATE: APRIL & MAY 2011		PROJECT ENGINEER	POST MILES	LOG OF TEST BORINGS 66 OF 70

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU: 04242
EA: 1637U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

USERNAME => $USER
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

Notes:
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
Modified California Sampler: I.D. = 2.5"; O.D. = 3"
Hammer Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
4	SF	101,1	8.2/9.8,6.9/7.1		

N. Andrew Herlache 11/7/11
GEOTECHNICAL PROFESSIONAL DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ANDY HERLACHE
No. G.E. 2149
Exp. 3/31/13
GEOTECHNICAL
STATE OF CALIFORNIA

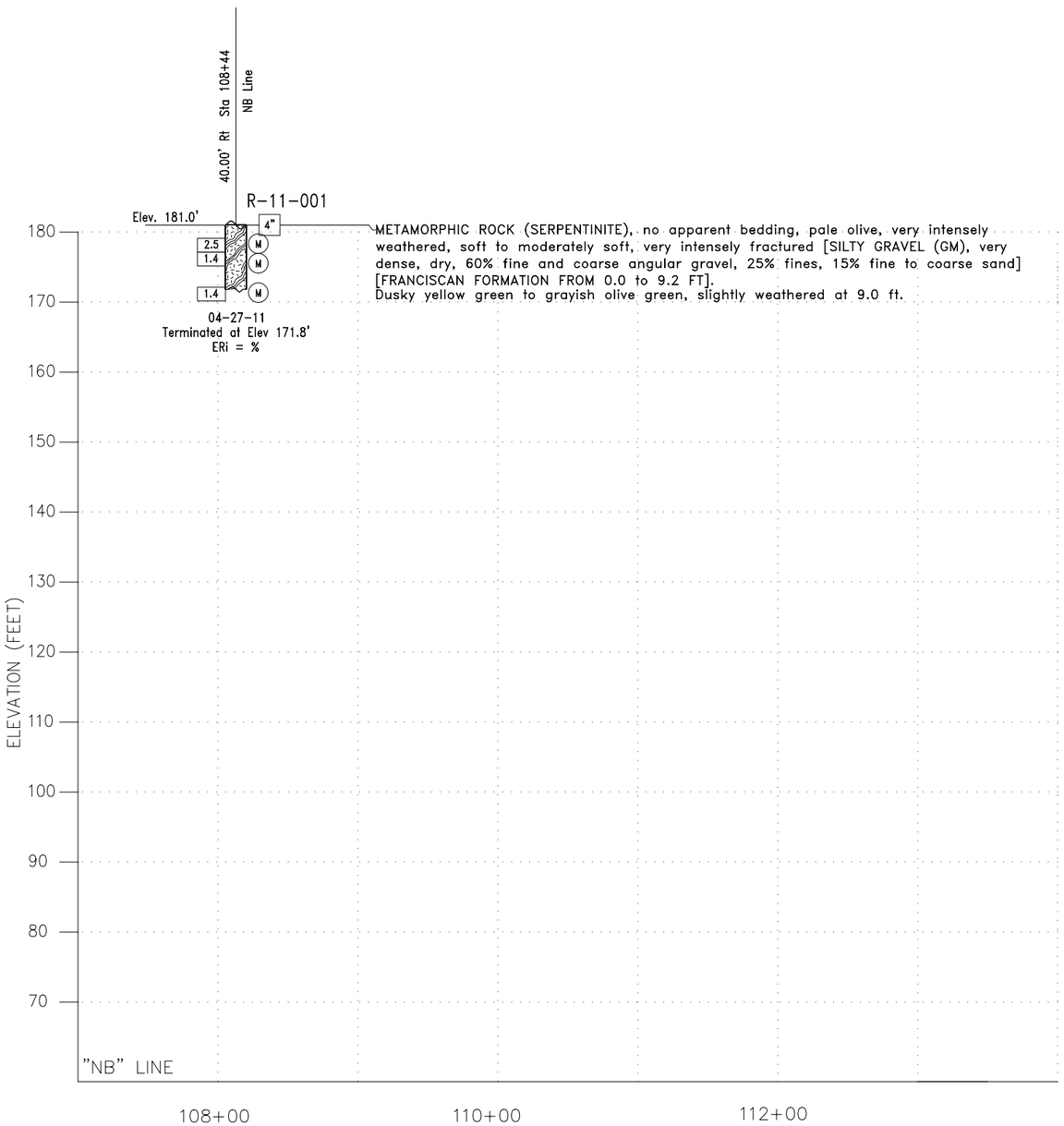
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

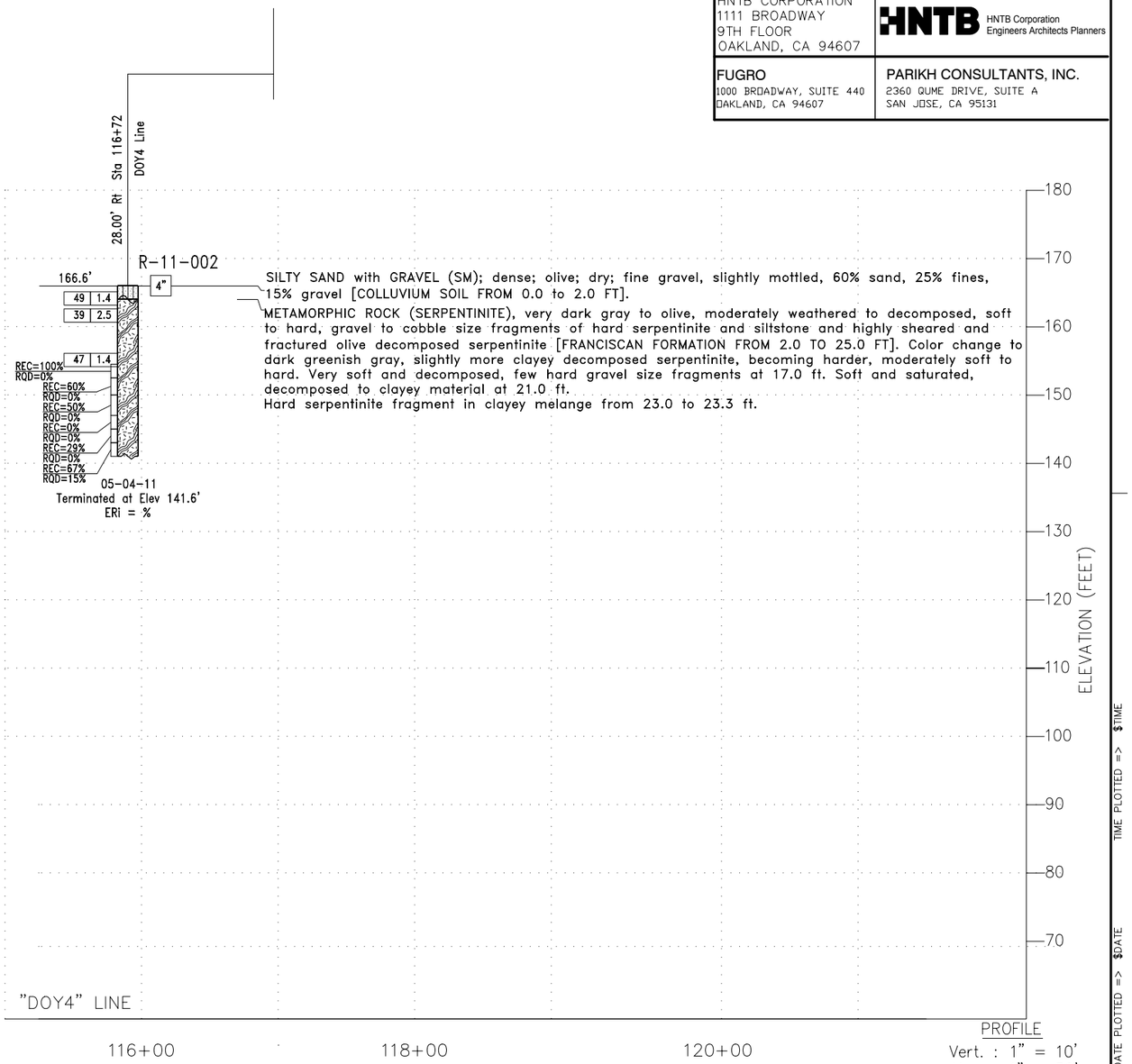
HNTB CORPORATION
1111 BROADWAY
9TH FLOOR
OAKLAND, CA 94607

HNTB Corporation
Engineers Architects Planners

FUGRO
1000 BROADWAY, SUITE 440
OAKLAND, CA 94607

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131





PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

DESIGN OVERSIGHT	DRAWN BY	OKSAN GOUTHIER	L. BHANGOO, G. VAN ETTEN V. SANTOS, A. SPERSKE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Andrew Bro	BRIDGE NO.	PRESIDIO PARKWAY PROJECT
SIGN OFF DATE	CHECKED BY	DAVID WANG	FIELD INVESTIGATION BY: DATE: APRIL & MAY 2011		PROJECT ENGINEER	POST MILES	LOG OF TEST BORINGS 67 OF 70

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU: 04242
EA: 1637U1

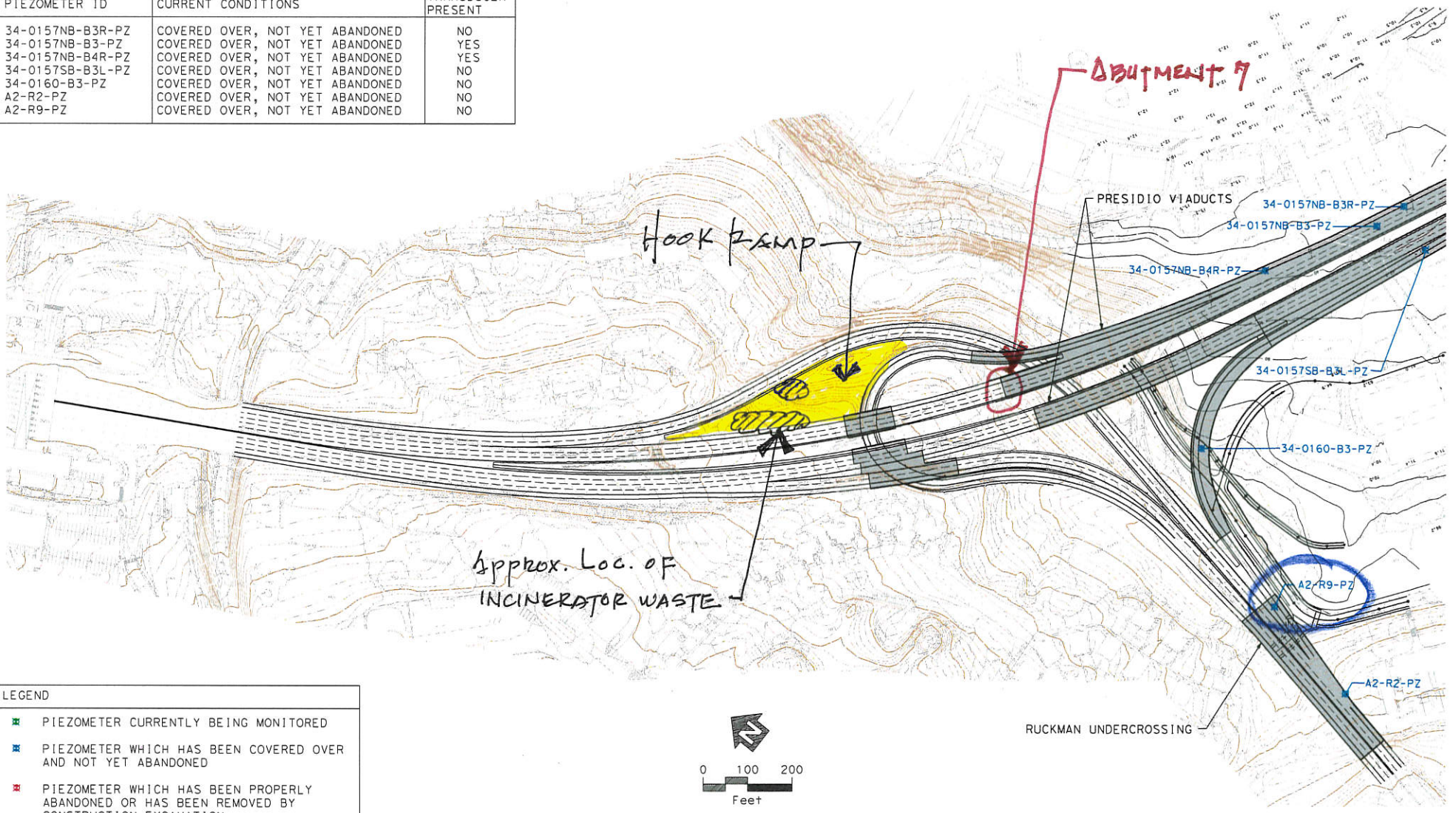
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

PRESIDIO VIADUCT
ABUTMENT 7

PIEZOMETER ID	CURRENT CONDITIONS	TRANSDUCER PRESENT
34-0157NB-B3R-PZ	COVERED OVER, NOT YET ABANDONED	NO
34-0157NB-B3-PZ	COVERED OVER, NOT YET ABANDONED	YES
34-0157NB-B4R-PZ	COVERED OVER, NOT YET ABANDONED	YES
34-0157SB-B3L-PZ	COVERED OVER, NOT YET ABANDONED	NO
34-0160-B3-PZ	COVERED OVER, NOT YET ABANDONED	NO
A2-R2-PZ	COVERED OVER, NOT YET ABANDONED	NO
A2-R9-PZ	COVERED OVER, NOT YET ABANDONED	NO



LEGEND

- PIEZOMETER CURRENTLY BEING MONITORED
- PIEZOMETER WHICH HAS BEEN COVERED OVER AND NOT YET ABANDONED
- PIEZOMETER WHICH HAS BEEN PROPERLY ABANDONED OR HAS BEEN REMOVED BY CONSTRUCTION EXCAVATION

FIGURE 2 - PIEZOMETER LOCATIONS (WEST)
PRESIDIO PARKWAY
ANNUAL GROUNDWATER ELEVATION MONITORING REPORT
APRIL 2013

SOURCE: ARUP PB JOINT VENTURE
DATE: 2013 04 17

$FILES$ Printed: $DATES$ $TIMES$ $USERS$

FUGRO

DRILLED PIER INSTALLATION RECORD

Date 7/11/13
Sheet 1 of 1

Project: PRESIDIO PARKWAY P3 PROJECT
Job No.: 04.71110002
Subject: ABUTMENT NO. 7 Pier #1
Field Engineer: V. CROSARIOL
Reviewed by: AB

Top of Rock 119
top 109

top of casing e +132.78

Log of Soil Conditions

129 0 — Serpentine gravel in intensely weathered sandy clay matrix & greenish gray
10 — less weathered
12 — harder drilling e 12 feet
v. dark bluish gray weathered serpentine rock, hard clasts
20 — 20 feet
22±9½ from top of casing
30
tip elev 108.98
Req = +109' Elev
40
50
60
70

DEPTH (feet)

Drilling Contractor: MALCOLM DRILLING
Drilling Equipment:
Required Pier Diameter (in.) 24
Required Pier Length (ft.) 20
Ground Surface Elevation (ft.) 128.94
Top of ~~Concrete~~ Cage Elevation (ft.) 129.34
Depth to Top of Concrete (ft.) —
Required Borehole Depth (ft.) —
Drilling Time
Start 0713
Finish 0750
Actual Borehole Depth (ft.) —
Depth to Groundwater (ft.) N/E
Depth to Bedrock (ft.) Ø
Casing Depth (ft.) 8 ft
Concrete Pour
Start 1023
Finish 1032

Remarks
Bottom of footing el = 128.97
Top of Rock el = 119 ft
tip eleve = 109 ft
Rock Socket = 10
~~... to short ... clean out, had to use auger to go deeper~~

128.97

DRILLED PIER INSTALLATION RECORD

FUGRO

Date 7/11/13
Sheet 1 of 1

Project: PRESIDIO PARKWAY P3 PROJECT Job No.: 04.7111002

Subject: ABUTMENT NO. 7 Pier #2

Field Engineer: V. CROSARIOL Reviewed by: AB

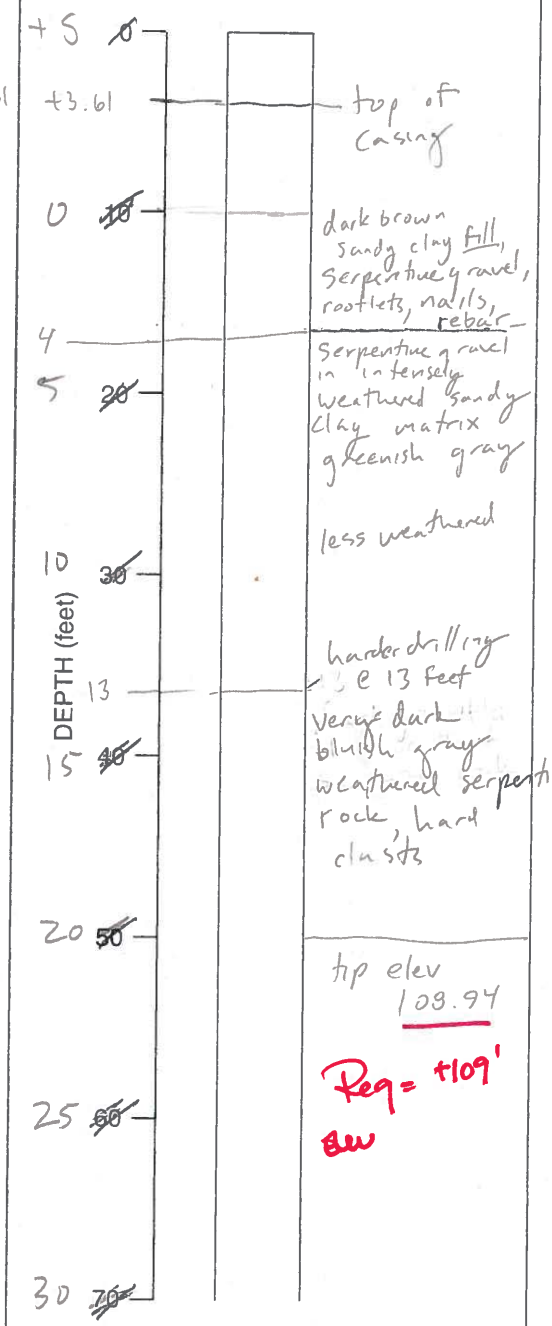
top of casing @ 132.61

132.61

129

22.93

Log of Soil Conditions



Drilling Contractor MALCOLM DRILLING

Drilling Equipment

Required Pier Diameter (in.) 24

Required Pier Length (ft.) 20

Ground Surface Elevation (ft.) 129.93

Top of ~~Concrete~~ Cage Elevation (ft.) 129.25

Depth to Top of Concrete (ft.) —

Required Borehole Depth (ft.) —

Drilling Time

Start 0759

Finish 0820

Actual Borehole Depth (ft.) —

Depth to Groundwater (ft.) N/E

Depth to Bedrock (ft.) 4

Casing Depth (ft.) ~~8 ft~~ 7½ ft

Concrete Pour

Start ~~0944~~ 1025

Finish 1027

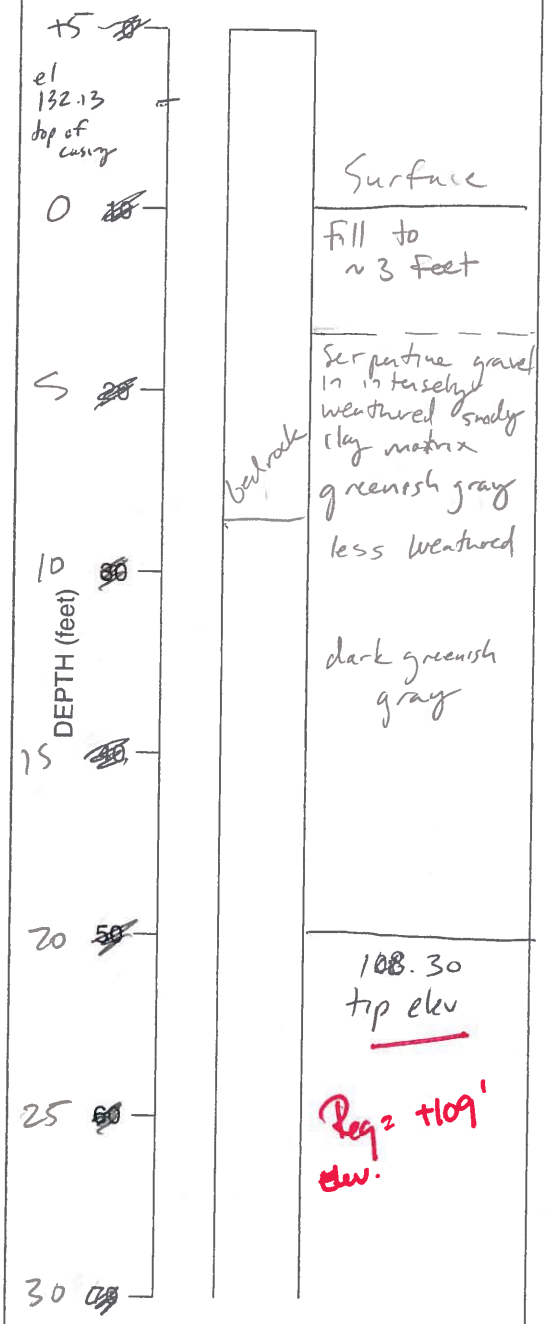
Remarks

DRILLED PIER INSTALLATION RECORD

Date 7/11/13
Sheet 1 of 1

Project: PRESIDIO PARKWAY P3 PROJECT Job No.: 04.7110002
Subject: ABUTMENT NO. 7 Pier #3
Field Engineer: V. CROSARIOL Reviewed by: AB

Log of Soil Conditions



Drilling Contractor MALCOLM DRILLING
Drilling Equipment
Required Pier Diameter (in.) 24
Required Pier Length (ft.) 20
Ground Surface Elevation (ft.) 128.99
Top of ~~Concrete~~ Cage Elevation (ft.) 129.35
Depth to Top of Concrete (ft.) —
Required Borehole Depth (ft.) —
Drilling Time (clean out)
Start 0900 1048
Finish 0921 1049
Actual Borehole Depth (ft.) —
Depth to Groundwater (ft.) N/E
Depth to Bedrock (ft.) 3
Casing Depth (ft.) ~~[illegible]~~
Concrete Pour
Start ~~1035~~ 1056
Finish 1133

Remarks
drilled w/o casing at first

DRILLED PIER INSTALLATION RECORD

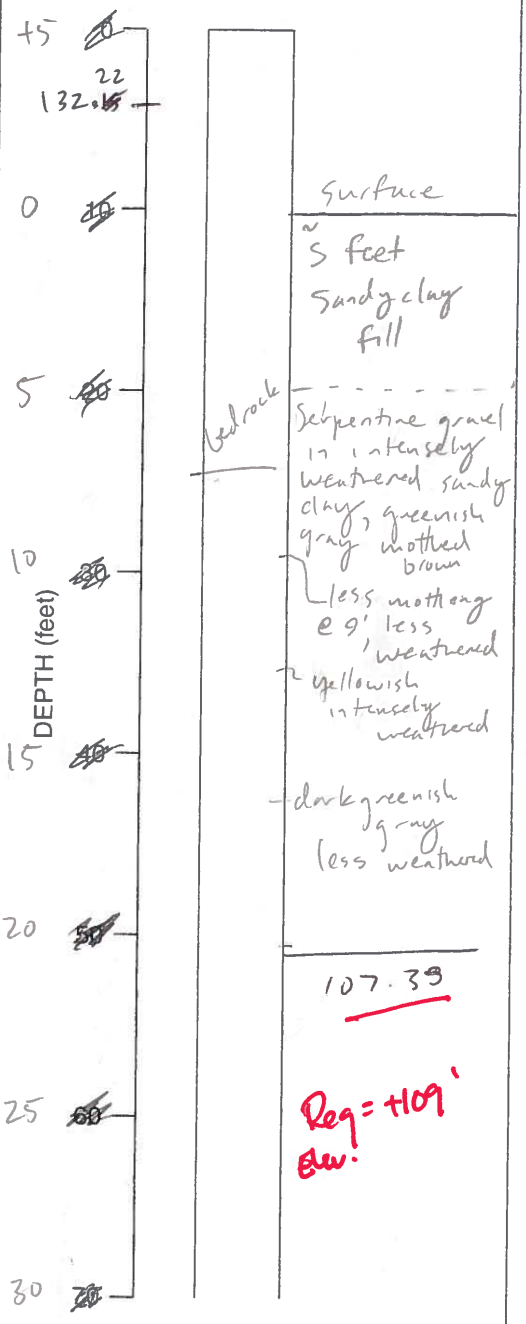
Date 7/11/13
Sheet 1 of 1

Project: PRESIDIO PARKWAY P3 PROJECT Job No.: 04.7111002

Subject: ABUTMENT NO. 7 Pier # 4

Field Engineer: V. CROSARIOL Reviewed by: AB

Log of Soil Conditions



Drilling Contractor MALCOLM DRILLING

Drilling Equipment

Required Pier Diameter (in.) 24

Required Pier Length (ft.) 20

Ground Surface Elevation (ft.)

Top of ~~Concrete~~ Cage Elevation (ft.) 129.25

Depth to Top of Concrete (ft.) 128.69

Required Borehole Depth (ft.) —

Drilling Time clean out

Start 0922 1051

Finish 0945 1052

Actual Borehole Depth (ft.) —

Depth to Groundwater (ft.) NE

Depth to Bedrock (ft.) 5

Casing Depth (ft.)

Concrete Pour

Start ~1135

Finish ~1140

Remarks

drilled w/o casing at first

Technical Memorandum

To: Caltrans Department of Transportation
To: Jason Phillips, Dave Mitchell, and Kelly Dehn (FKJV)
From: Jeff Raines, P.E. (C51120), G.E. (2762), Andrea Brown, P.E. (C83327), and Kara Quan-Montgomery
Date: May 6, 2015
Subject: Hook Ramp Drainage Swale Demolished Incinerator Area Cap, Doyle Drive Project, San Francisco, California

---

At the direction of Flatiron/Kiewit, Joint Venture (FKJV), Terraphase Engineering Inc. (Terraphase) has prepared this technical memorandum to fulfill the California Department of Transportation's (Caltrans) request to summarize the capping of the demolished incinerator area within the Hook Ramp drainage swale in the West Parkway (WP) area of the Doyle Drive Project (the Site).

Background

FKJV uncovered demolition debris and ash near the location of an incinerator shown on maps of the Presidio drawn in the 1920s. Most of the debris and ash excavated during construction of the drainage swale were classified as Class I (non-RCRA) California hazardous waste as the total lead detected in samples of the ash exceeded the Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg). Class I soil in stockpile SP-202 was disposed of at an appropriate landfill. In March 2015 the soil remaining in place was further characterized to better understand the lateral and horizontal extent of the soil containing elevated lead concentrations. Samples were collected from up to 6.5 feet below the existing grade and analyzed for lead. Three different elevated lead areas were identified (Terraphase 2015). The highest lead concentrations were contained within Elevated Lead Area 1 as shown in Figure 1.

The grading plan for the former incinerator area was redesigned to allow for the placement of stockpiles SP-203 and SP-204 and the proposed two foot cap of unrestricted soil within the demolished incinerator area. Caltrans submitted the new grading plan to the Department of Toxic Substances Control (DTSC) for approval. Caltrans representative David Yam gave confirmation that DTSC had approved the design and proposed cap at the April 16, 2015 weekly Soil Management meeting. He also presented the "Caltrans Proposed Capping Plan" (Capping Plan) which is included as Attachment 4 to this memorandum. Due to the extended delay of construction in this area of Hook Ramp caused by the discovery of the incinerator ash, it was imperative that FKJV begin capping the area immediately, so on April 16, 2015 FKJV began backfilling in accordance with the Caltrans Capping Plan.

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612
www.terraphase.com

Stockpiles SP-203 and SP-204

Stockpiles SP-203 and SP-204 were formed during the excavation of the demolished incinerator area during implementation of the original grading plan for the drainage swale area. The excavated soil was stockpiled after being screened using an x-ray fluorescence (XRF) analyzer as described in Terraphase's memo "Hook Ramp Drainage Swale Sample Results" dated March 25, 2015. Composite confirmation samples were collected from the stockpiles and submitted to an analytical laboratory. Analytical results were included in the Terraphase March 25, 2015 memo, which was submitted to DTSC by Caltrans. DTSC approved the reuse of stockpiles SP-203 and SP-204 within the demolished incinerator area in an email from George Chow to David Yam on April 15, 2015.

On April 16, 2015, FKJV began capping the demolished incinerator area by placing stockpiles SP-203 and SP-204 in the areas delineated in Figure 1. Cell 4 of SP-203 was separated and placed at the bottom of the fill area, which was approximately 10 feet below final grade. The total lead result for Cell 4 of SP-203 was 110 milligrams per kilogram (mg/kg), which is below the Presidio Ecological Criteria of 160 mg/kg. The remaining stockpiled soil was placed across the demolished incinerator area at depths approximately 2 to 10 feet below final grade. Caltrans representatives were on site April 17, 2015 to observe the capping of the demolished incinerator area.

Elevated Lead Area 1

Terraphase staked out Elevated Lead Area 1 using a sub-meter accurate Global Positioning System (GPS) meter prior to the commencement of cut and fill operations. In order to allow for a two foot cap, two feet of soil was excavated from the southwestern section of Elevated Lead Area 1 and placed on the northern side of Elevated Lead Area 1. The soil from Elevated Lead Area 1 was placed approximately 10 feet beyond its original footprint on the northern side. The southern side of Elevated Lead Area 1 is bounded by the constructed highway. As displayed in the attached Photographic Log, high visibility orange mesh fabric was installed over Elevated Lead Area 1 including the newly extended area.

Final Cap

A cap of at least two feet of unrestricted soil (horticultural soil) was placed on top of the entire drainage swale area. This included Elevated Lead Areas 1, 2, and 3 as well as the areas where stockpiles SP-203 and SP-204 were placed.

Please contact Jason Phillips (jphillips@flatironcorp.com) with any additional questions or comments.

References

Terraphase Engineering Inc. Hook Ramp Drainage Swale Sample Results, Doyle Drive Project, San Francisco, CA. March 25, 2015.

Attachments

1. Figure 1
2. Photographic Log
3. Field Notes
4. Capping Plan

Figure 1

THIS PAGE LEFT INTENTIONALLY BLANK

File: J:\GIS Backup\GIS Data\0068 Flatiron\Excavations\Hook Ramp V-Ditch\fig-presidio-Drainage_Swale_Sampling_Plan_0068.001.012-stepouts.mxd 5/6/2015 Created by: JK Checked by: AB

CS1A
CS2A
CS3B
CS1
CS2
CS3A
CS3
CS5B
CS5A
CS4
CS9
CS5
CS6
CS7A
CS10
CS18
CS16
CS11
CS8
CS7
CS12
CS19
CS17
CS20
CS20
CS13
CS22
CS13A
CS14
CS21
CS15

SP-204
(600 CY)

SP-203
(1,200 CY)

Legend

- Exceeds Commercial/Industrial CHHSL Criteria
- Exceeds Presidio Ecological Criteria
- Exceeds Unrestricted Reuse Criteria
- Below Unrestricted Reuse Criteria
- Final Grading Plan
- Placement of Stockpiles
- Extent of cut and fill operations
- Elevated Lead Area 1 (2,331 square feet)
- Elevated Lead Area 2 (2,732 square feet)
- Elevated Lead Area 3 (2,717 square feet)

N

0 20 40 60 80 Feet

1 in = 40 ft

Aerial imagery captured in July 2012.

SAFETY FIRST

terraphase engineering

CLIENT:	Flatiron Kiewit JV
PROJECT:	Doyle Drive Project
PROJECT NUMBER:	0068.001.012

Hook Ramp Drainage Swale Demolished Incinerator Area Cap

FIGURE 1

Photographic Log

THIS PAGE LEFT INTENTIONALLY BLANK

Photograph 1

Incinerator area before backfilling activities (looking north)

4/16/15 1430

Photograph 2

Backfilling stockpiles SP-203 and SP-204 (looking west)

4/16/15 1715

SAFETY FIRST	CLIENT: Flatiron Kiewit JV	**Photographic Log**
terraphase engineering	PROJECT: Doyle Drive Project	
	PROJECT NUMBER: 0068.001.012	**Page 1**

Photograph 3

Backfilling continues (looking west)

4/17/15 1100

Photograph 4

Backfilling continues (looking west)

4/18/15 0645

SAFETY FIRST	CLIENT: Flatiron Kiewit JV	**Photographic Log**
terraphase engineering	PROJECT: Doyle Drive Project	
	PROJECT NUMBER: 0068.001.012	**Page 2**

		**Photograph 5** Orange mesh fabric over Elevated Lead Area 1, looking to the east. 4/18/15 1430
		**Photograph 6** Orange mesh fabric over Elevated Lead Area 1, looking to the southeast. 4/18/15 1430

Photograph 7

Final graded area with 2 feet of horticultural soil (looking east)

4/20/15 1430

Photograph 8

Final graded area with 2 feet of horticultural soil (looking west)

4/20/15 1430

Field Notes

THIS PAGE LEFT INTENTIONALLY BLANK

Date: April 16, 2015 at 6:25:24 AM

Project: Presidio Parkway
Project Number: 0068.001.001

Logged by: Kara Quan-Montgomery

Weather: Sunny, clear, 60s-70s

Time Onsite: 0710

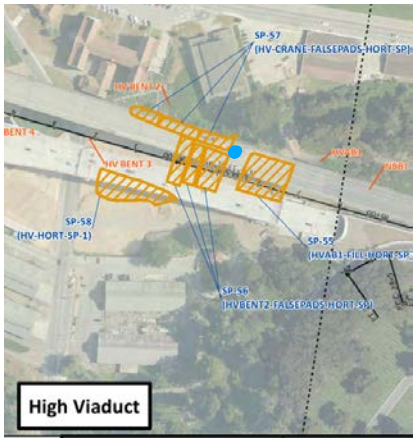
Time Offsite: 1745

^ Looking SE.

^ Looking NW.

^ Looking W.

0715: Hook Ramp has minimal activity. Casey said he is mostly doing housekeeping. He said that Steve Roberts was grading yesterday with the horticultural soil, but they did not import and more material and just adjusted the soil that was there on top of the slope, as indicated by the photo on the above right.



^ Looking W, taken from approximately where blue dot is on figure to left..

0735: Steve Roberts said they are done with hort soil placement at Hook Ramp.

0800: Spoke with Brian Hatch. His crews are working on placing pipes and such on eastern side of Battery Tunnel, in between NB and SB. He said that Hook Ramp is complete. Confirmed which hort piles were used for placement. After walking the site, determined that SP-56 and SP-57 were used as placement at Hook Ramp and were also hauled to Derek for placement along Girard.

0820: Derek's crew is digging out the AB rock from the planter area. The native material is being exposed. Predominantly brown sand with some loamy sand.

Left: Looking NW.

Right: Looking S

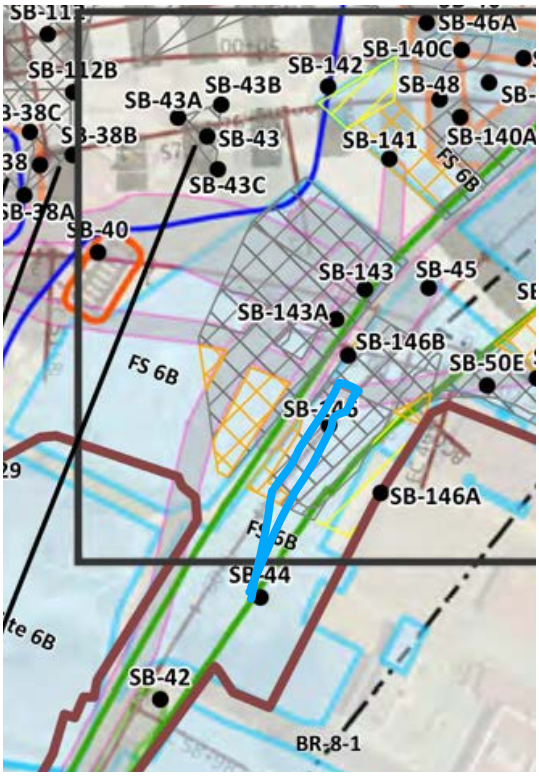
0850: Eddie (Trust) on site briefly to take photos of planting area on Girard. Moved on to other areas of site.

0900: A block of slurry likely from storm drain leading to DI on east side of the street. Derek is not sure why the slurry is poured so high. He said they will work around it for now and ask Steve Mendoza about how to proceed.

Left: Looking SE.

^ Looking S.

0915: Bay Cities chipped out asphalt that was from the former roadway. This piece was underneath a k-rail initially and got missed during the initial demo. It will be removed prior to hort placement.



Left: Figure showing approximate planter area on Girard.

0920: Clay's crew is working on filling a driveway for the veteran's apartment building. They are using imported road base.

Right: Looking S.

0930: GPS'ed planter area.

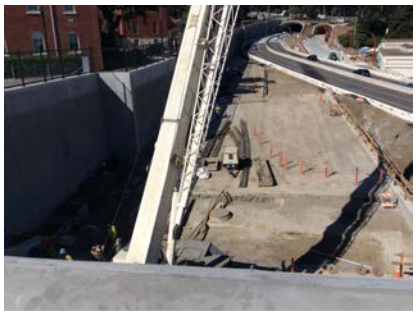
0930: Derek notified me that after talking with Steve Mendoza, they will not be placing horticultural soil today. There will be a meeting and inspection sometime tomorrow prior to placement. In the meantime his crews will finish cleaning up the planter area and move onto working near the Triangle area near the Boat section.

0940: Mark Hawkins crew is doing a lot of hand digging activities in manholes along Girard. They may have some AB or slurry from the hole which they will add to designated piles. He expects that they will mostly put everything back in the hole.

0945: Dale's crew is backfilling SS-9 and SS-10. They have another 10 feet or so of trenching to do.

0950: Roger told me that Dennis' crew is going to finish backfilling that manifold on the NE side of MPT. Then they will be excavating for a 4 inch watermain re route in the same area that they are working in.

^ Looking N.



1000: FKJV is drilling out concrete around DIs on western side of MPT.

Left: Looking W.

1020: Ciew of Dale's crew backfilling SS-9 and SS-10.

Right: Looking SE.

1030: GPS'ed the SB-50 excavation at Gorgas and Girard.

1040: It appears that hort soil was moved into the islands in Tennessee Hollow. Small stockpiles are in the islands.

1045: Derek's crews are working in Tennessee Hollow area directly north of boat, near TH Abutment 1R. They are cleaning up slopes.

Left: Looking SW.

Right: Looking W.

1050: Spoke with Derek. One of his crews is backfilling a trench along the wall so this man-lift can get out. He said they will bring in AB to place around the boxes for a pad around the utilities. Eventually they have to do a cut in the center and will likely place the cut material on both sides near the walls. The walls will build up and it will be about a 4 foot cut in the center for hort soil placement.

1130: A utility was installed in general area of DS-13. Material appears to be stockpiled next to the excavation. CDSM material.

Left: Looking S.

1140: Josh Stow's crews are working on grading. They sawcut the asphalt and are regrading to make the intersection flow better. Confirmed that the soil underneath the AB in the Girard planter area is native. There is some Cathedral Hills sand that covers a large storm drain across it, as shown on the left.

Left: Looking S.

^ Looking NE.

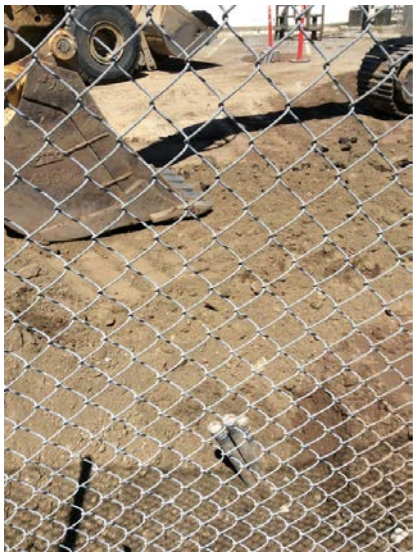
1215: RW-110 is getting prepped for pour. Phillip, structural foreman, says they would like to pour in the next couple of days.

Left: Looking E.

1235: St Francis drilled to 10 feet deep with the shield and backfilled a foot with rock. Used casing due to collapsing sands.

Left: Looking SE.

Right: Looking Nw.



1240: Jeremy (Mark's crew) is working on tying in electrical lines And abandoning those that are no longer going to be used.

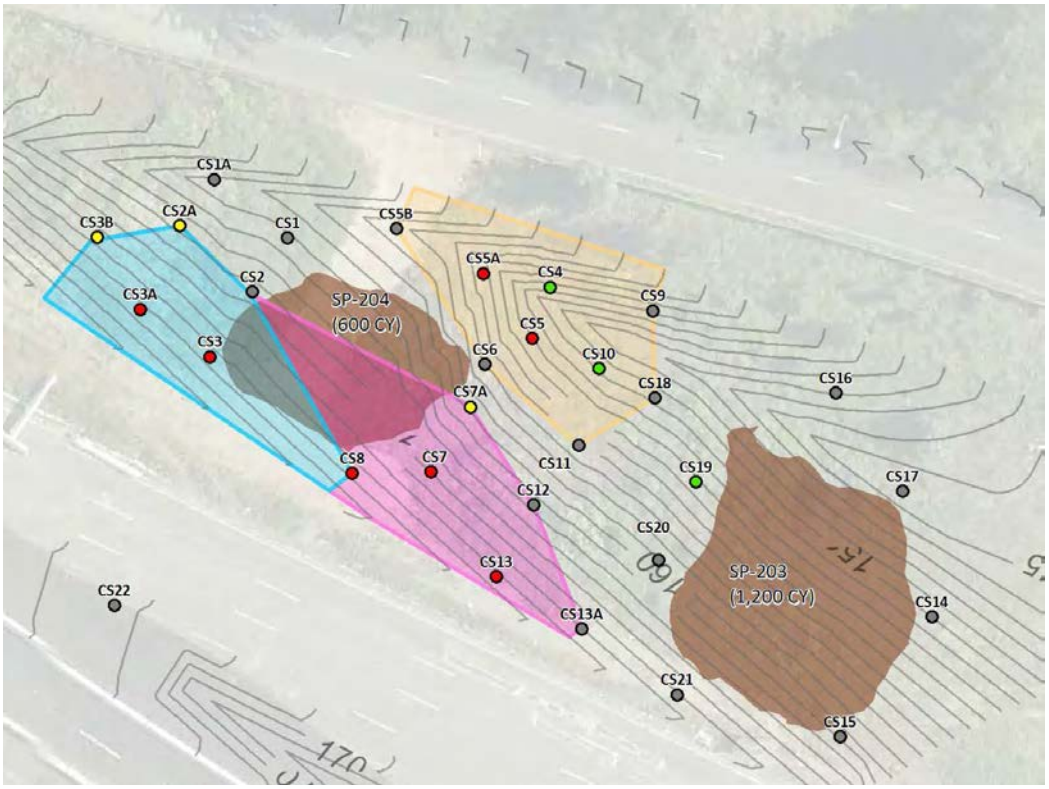
1245: Other crews are backfilling storm drain systems. I believe it is SDS-15 but the number is not confirmed

Left: Looking S

1300: Foremans meeting.

- Derek's crew hopes to finish TOS pad once the boxes come up. Would like to grade for hort to the west of TOS (RW-103). Then head up to triangle area if they can have trucks access it. Then storm drain repair at DOY 3.
- josh's crew will grade the MVP and west side of Boat. And paving support.
- Richard's crews will be working at Bus Stop. Load out/grade Bus Stop. Load out concrete to Ox. Other crew is doing DI prep on onramps at DOY3.

1330: Headed to Hook Ramp to meet with Fred, Steve Roberts, and Brian Hatch.



1400: Fred Cargile (FKJV) says the plan is to place high visibility orange mesh prior to backfilling in the elevated lead area at Hook Ramp, shown in blue on the figure to the left. Requested that I use my GPS to stake out the sample points that define the boundary. They plan to place at least 2 feet of soil on top of the elevated Pb area, so they will have to cut into native soil in order to place the mesh and then backfill with soil that does not have elevated concentrations of lead. No soil will be moved out of this area and they will use existing stockpiles to fill area.

^ Looking NW.

^ Looking NE.

Photos to the left show stockpiles prior to disturbance and movement.

^ Looking NW.

1440: FKJV started moving soil to between SP-203 and SP-204. A stockpile that was initially from the CS-22 area (on the opposite side of the newly formed NB roadway) is being moved and placed in between SP-203 and SP-204. It is being moved so that the blue area can be excavated.

^ Looking NE.

1535: The small pile that had been from the CS-22 area is now moved completely.

^ Looking E.

1545: Finished staking out the area of elevated Pb area, shown in blue on the figure. Photo taken from west of CS-3B and CS-2A.

^ Looking E.

^ Looking W.

1540: Steve Mendoza brought the GPS to confirm the elevations of fill and grades.

1545: Started moving part of SP-204 to the other side of the pile, as shown in photos left. This will remove it from the Pb exceedence area.

1540: Started moving part of SP-203. Pushing it over to the west. Class I section that was staked got put at the bottom of the fill, approximately 8 feet below subgrade.

^ Looking E.

^ Looking NE.

^ Looking NW.

1630: Status of SP-203 being pushed over is shown on the left. Also cutting 2 feet to subgrade.

1715: Steve Roberts is wrapping things up for the day at Hook Ramp. They will continue tomorrow morning. Start at 6:30a. And they have ordered hort trucks to come at 9 or 9:30a to start placing soil as they move along and grade to final.

Left: Looking W.

Date: April 17, 2015 at 6:09:10 AM

Project: Presidio Parkway
Project Number: 0068.001.001

Logged by: Kara Quan-Montgomery

Weather: Foggy, breezy, clear

Time Onsite: 0605

Time Offsite: 1815

0615: Steve Roberts used GPS and said they are about 4 feet under final grade where SP-203 is located and suggested i GPS the pile now.

^ Looking N.

0620: GPS'ed SP-203.

0630: H & S tailgate meeting. Brian Hatch will come to site later to help. Expect hort soil between 9 and 0930.

0640: Steve R used GPS around SP-203 to determine how much fill is required to get to subgrade, which is shown in blue on the photo on the right.

0645: Steve R painted the corner that they need to do 2' cut in the NE part of Hook Ramp.

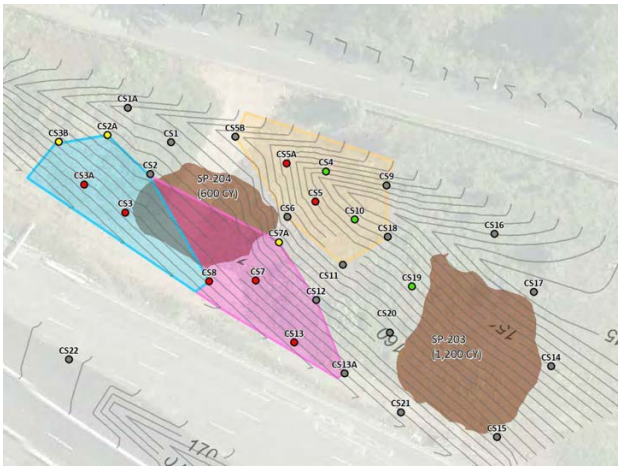
Left: Looking NE.

Right: Looking W.

0650: Casey's crew started digging yesterday next to highway 1. They are widening the shoulder and will bring base rock in to prep for paving. The soil being taken out will likely be used as fill in the v-ditch area

0700: Chavo is pushing SP-204 down and over into the gap. Prepping space to do the 2 ft cut in the elevated Pb area so that the soil from the elevated area can be placed close to original area, shown in blue, for the range high visibility mesh to be placed.

Left: Looking NW.



0725: Chavo is pushing last of SP-204 down. Remarked CS-2 stake using GPS that was originally in SP-204.

Left: Looking NW.

0730: Meeting with FKJV (Steve Mendoza, Dave Mitchell, Mike Verza, Derek Callahan). GLC and Trust (Eddie, Mark Holmbrook) on site. Dave Mitchell said plan is to place hort soil up to 1 inch below concrete.

Mark (Trust) does not consider this native material. Eddie asked if it will be screened. Dave said debris will be picked out. Eddie suggested we look into SP-56 loading to pay attention to what is being loaded

Right and Left: Looking S

0800: Steve Mendoza and Dave Mitchell instructed Derek to start placing SP-56 in the planter on Girard. Laborers will be used to hand pick debris and rocks as hort soil is added in small lifts.

0830: Electrical crews started laying pipe in planter for electrical lines. Dug small trench.

0840: Josh Stow used GPS to take elevation readings of planter so that amount of fill can be determined for those areas that will require a fill greater than 2 feet.

0850: St Francis is laying pipe to extend upwards and across the length of the planter.

0850: Spoke with Clay Carlson. His crews are busy with demolishing the bus stop at Lincoln. They are hauling concrete debris to Ox Mountain. He said today they will likely start getting into some soil with concrete debris. He expects about 3 truckloads of material to be staged at Halleck. Suggested he keep it separate and i will try to label it later today or tomorrow.

^ Looking N.

0855: Danny, laborer, started hand picking rocks out of SP-56.

^ Looking NW.

^ Looking NE.

0925: Returned to Hook Ramp. Chavo is making the 2 ft cut in the elevated Pb area and pushing the soil to the north where fill is needed.

Left: Looking W.

0950: Steve Roberts and Brian Hatch are working on cutting the NE corner out to subgrade.

Right: Looking NE.

0955: Cutting and filling continues at Hook Ramp.

Left: Looking W.

1005: Hook Ramp status shown on right, looking W.

^ Looking W.

1100: Brian is cleaning up the east end of the v ditch. GPS'ed points where Steve took fill readings to track fill depths of hort soil.

Steve R is going to send trucks soon and start filling the east side.

Right: Looking W.

1120: Derek said they just started putting hort in the planter area. Danny is hand picking large rocks out of hort soil. They are putting small piles using a loader. Derek said an excavator will come later to help spread and sift the rocks out. SP-56/57 are loamy sand.

Left: Looking N.

Right: Looking S.

1135: Dale's crew is prepping pipe to be placed for SS-9 and SS-10.

Left: Looking S.

1140: Derek's crew is digging CDSM material on west side of SBMPT. Stockpiling next to asphalt.

Right: Looking W.

1205: Small piles along Girard planter, shown on left looking N.

1225: At Hook Ramp they started placing hort soil.

Right: Looking NE.

1245: Used GPS with Steve Roberts to determine fill in areas. He started placing stakes.

Left: Looking W.

1300: Mesh has been delivered.

Left: Looking S.

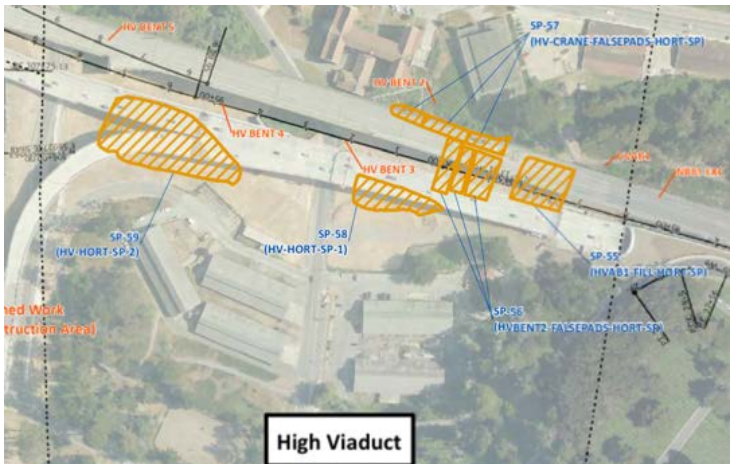
1305: Status of hort placement and cut/fill areas shown on the right, looking E.

1325: Chavo continues pushing hort soil to the east. Hort is SP-56 and SP-57. Soil is consistent with horticultural soil from the stockpiles.

1340: Dave Mitchell dropped by to confirm there is at least 2 feet of uncontaminated soil (top 18 inches should be hort) to cap SP-203. Notified him they are placing between 2 and 4 feet of horticultural soil throughout the entire excavation.

^ Looking SW.

1415: Russ, who is loading the hort soil from SP-56 and SP-57. He will need to move to the western side of McDowell, to SP-59. Brian is going to head down there to facilitate moving to SP-59. This will likely result in a minor delay of trucks.



^ Looking NE.

^ Looking W.

^ Looking E.

1510: Started placing a load of hort to start creating a ramp for trucks.

1545: Trucks are getting caught in traffic. Placing on east side of v-ditch.

Left: Looking N.

Right: Looking W.

1605: Started digging on western end of v-ditch near electrical pad.

Left: Looking N.

1630: Continuing to cut and fill at Hook Ramp.

Right: Looking NE.

1700: Progress of cut shown on left. Haul road has completely moved. Moving excavated soil to the area that was in between SP-203 and SP-204. Soil excavated from the western end of v-ditch is consistent with native soil in the area - serpentinite soils with cobbles and some concrete and brick debris.

Left: Looking E.

^ Looking NE.

^ Looking NE.

^ Looking SW.

1745: Status of area shown above.

1745: Steve Roberts said they are done digging and are now focusing on placement of hort soil. Subgrade seems consistent throughout area. GPS'ed areas for fill. Steve plans to haul hort soil starting at 6:30a tomorrow. Now they will focus on building ramps to give 2 access points for hort soil to be placed. He will start signing trucks out and form another haul road.

Left: Looking W.

1800: Progress on ramp shown on right.

Right: Looking E.

Date: April 18, 2015 at 6:15:10 AM

Project: Presidio Parkway
Project Number: 0068.001.001

Logged by: Kara Quan-Montgomery

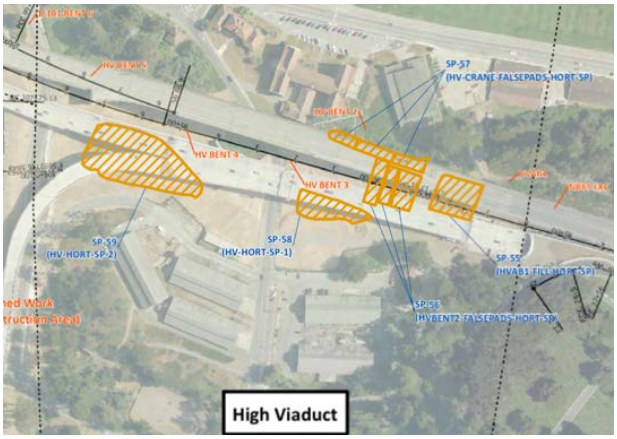
Weather: Foggy, windy, 50s

Time Onsite: 0610

Time Offsite: 1215

^ Looking W.

0620: Steve Roberts returned from High Viaduct area. Brian Hatch is loading trucks today with hort soil to be placed at Hook Ramp. Steve said Brian is starting to load SP-59. He has some loads out of there but needs to leave most of the stockpile to be a crane pad. He will move back over to east side of McDowell where they had stationed their conexes, amd start loading SP-58.



^ Looking W.

0645: Utilizing dozers to grade out hort. Focusing on the NE corner.

0650: Casey's crew is working on installing DI's under the viaduct.

^ Looking SE.

0655: Trucks with SP-59 arrived at Hook Ramp for hort placement.

Left: Looking SW.

0710: High Viaduct - Brian is loading trucks with SP-59 to go to Hook Ramp.

Right: Looking NW.

0715: One truck is being loaded with SP-59 for Derek's operations at Girard.

0720: Noticed new debris and soil stockpile at Mason Yard.

Right: Looking S.

0730: OC Jones is digging in same area near utilities near Mason Warehouses. Installing DI 12A and have to put a 20 ft section of pipe in.

Left: Looking S.

0735: Talked to Mark Stilley. His crews are digging a little and plan to pour electrical and other utilities in area. Notified him that SB-60 is a class I area for the top 2 ft. Asked him about the debris piles at Mason Yard and he said it is not his crew's soil and is likely from nightwork near Palace of Fine Arts possibly.

0750: Derek's crew is placing hort soil in planter on Girard. FKJV are using rakes to comb out rocks and remove them from the planter area, focusing primarily on surface. Cannot confirm material was adequately screened.

Left & Right: Looking N.

^ Looking E.

0810: Spoke with Steve Mendoza about new piles by SP-212 on northern side of MPT. He said they are from Roger Gutierrez utility work and is predominantly Cathedral Hills sand that has been placed on the southern side of MPT. He thinks they will use what they can in Roger's excavation and then likely place the rest here on the northern side of NBMPT.

0845: Spoke with Derek Callahan. They have been trying to hand screen the hort material that is being placed. His other crew is working on grading the median that is east of the triangle area.

0850: Derek's crew plans to move the soil to the sides of the wall and prep the subgrade for hort placement. Structural calls for 3 ft of soil on each wall, and hort will go down the middle to 4 ft according to Derek.

Left: Looking SE.

^ Looking E.

0855: Ghilotti Bros continues to lay asphalt.electricians are installing lights.

Left: Looking W.

0915: FKjV continues to place hort soil. The soil from SP-59 appears to be a sandy loam with less debris. Crews are focusing on filling area to prevent the curb from falling in. Their raking and hand clearing techniques do not appear to be effective with removing rocks and debris.

Right: Looking N.

0950: Talked to Clay about his bus stop demo operation. He said that he did not generate any soil that needed to leave the area.

1010: Dale's crew is installing SS-9 and SS-10.

Right: Looking NW.

1045: Filling continues at Hook Ramp.

Left: Looking NE.

1050: Spoke with Steve Roberts. They will continue filling with hort. He said that he thinks Brian only took maybe 5 loads or so of SP-59 before moving on to SP-58. He said he will take pictures of the orange fabric before he backfills on top of it. He is not sure whether they will do that today or tomorrow.

^ Looking E.

1105: Brian is loading SP-58 to take to Hook Ramp. He said at 8:30a he moved from SP-59 to SP-58. They are removing layer of road base on top and loading out the NW portion of pile, moving eastward.

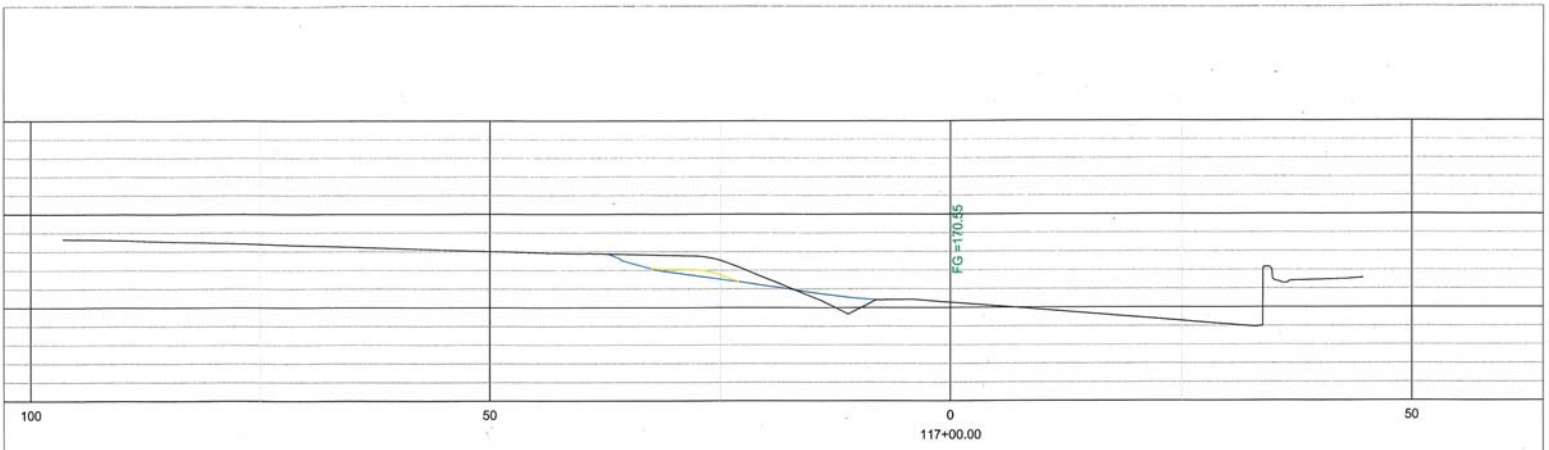
^ Looking SW.

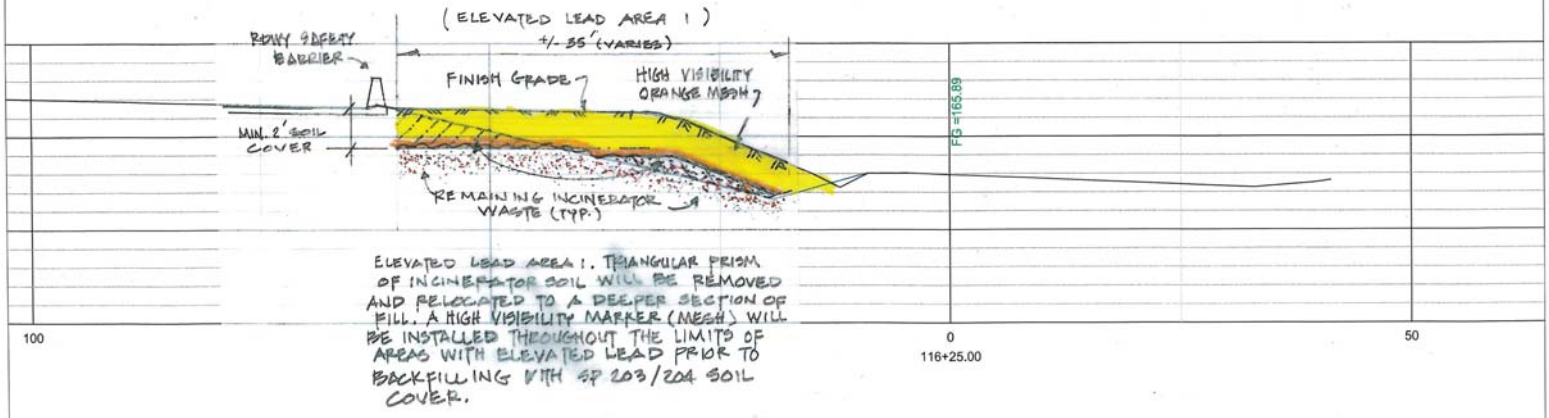
1120: Mark Stanley told me that as far as he knows, SP-230 will be moved and stationed at Halleck on Monday. Labeled the stockpile.

Left: Looking NE.

Capping Plan

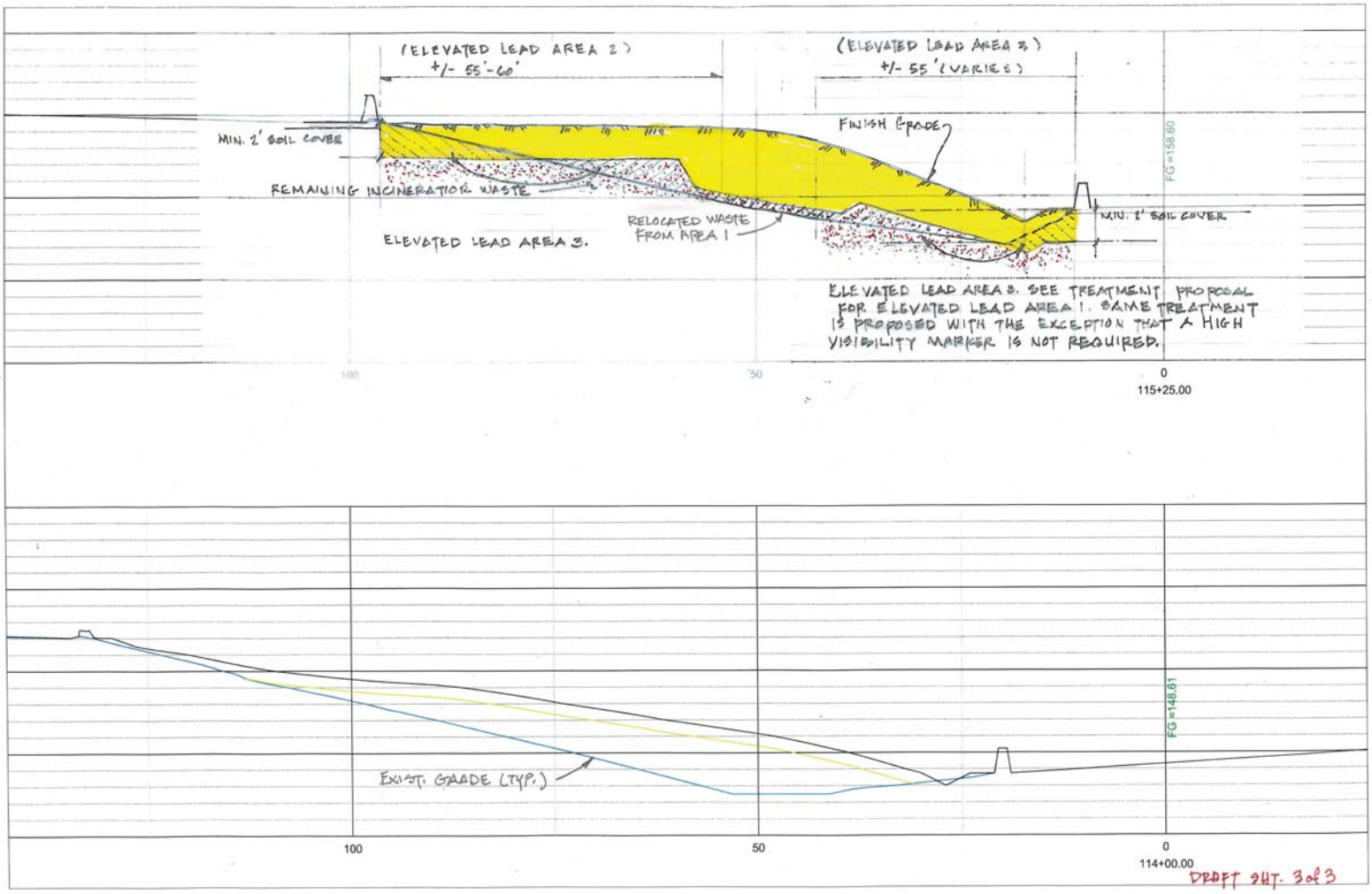
THIS PAGE LEFT INTENTIONALLY BLANK





ELEVATED LEAD AREA 1. TRIANGULAR PRISM OF INCINERATOR SOIL WILL BE REMOVED AND RELOCATED TO A DEEPER SECTION OF FILL. A HIGH VISIBILITY MARKER (MESH) WILL BE INSTALLED THROUGHOUT THE LIMITS OF AREAS WITH ELEVATED LEAD PRIOR TO BACKFILLING WITH SP 203/204 SOIL COVER.

DRAFT SHT. 2 of 8



DRAFT SHT. 3 of 3

APPENDIX B

DATA SUMMARY TABLES FROM THE REMEDIAL INVESTIGATION REPORT

TABLE 1
SOIL SAMPLING ANALYTICAL MATRIX TABLE
Lendrum Court Area
Presidio of San Francisco, California

Trench or Grid Area Location (a)	Trench or Pothole	Sample Depth (ft bgs)	Stratigraphic Layer (b)	Sample ID	Laboratory Analyses (c)			
					Title 22 Metals (EPA 6020)	Lead (EPA 6020)	PAHs (EPA 8270C)	Dioxins & Furans (EPA 1613)
301	Trench	0.5	Surface	1279TP301-S[0.5]		●		
302	Trench	0.5	Surface	1279TP302-S[0.5]		●		
303	Trench	0.5	Surface	1279TP303-S[0.5]		●		
304	Trench	3.5	Debris	1279TP304-D[3.5]	●		●	●
305	Trench	3.5	Debris	1279TP305-D[3.5]	●		●	●
A1	Trench	0.5	Surface	1279TPA1-1[0.5]S		●		
		2.0	Debris	1279TPA1-2[2.0]D	●		●	●
	Pothole	0.5	Surface	1279SBA1-1[0.5]S		●		
A2	Pothole	0.5	Surface	1279SBA2-1[0.5]S		●		
		0.5	Surface	1279SBA2-3[0.5]S		●		
		0.5	Surface	1279SBA2-4[0.5]S		●		
		0.5	Surface	1279SBA2-5[0.5]S		●		
B1	Pothole	0.5	Surface	1279SBB1-1[0.5]S		●		
C1	Pothole	0.5	Surface	1279SBC1-1[0.5]S		●		
D1	Pothole	0.5	Surface	1279SBD1-1[0.5]S		●		
D2	Pothole	0.5	Surface	1279SBD2-1[0.5]S		●		
E1	Pothole	0.5	Surface	1279SBE1-1[0.5]S		●		
		0.5	Surface	1279SBE1-2[0.5]S		●		
F0	Trench	1.5	Debris	1279TPF0-1[1.5]D	●		●	●
F2	Trench	0.0 - 1.0	Debris	1279TPF2-1[0.0-1.0]D	●		●	●
				1279TPF2-1[DUP]	●		●	●
G1	Trench	0.5 - 1.5	Debris	1279TPG1-2[0.5-1.5]D	●		●	●
G2	Pothole	0.5	Surface	1279SBG2-1[0.5]S		●		
H0	Pothole	0.5	Surface	1279SBH0-2[0.5]S		●		
H1	Pothole	0.5	Surface	1279SBH1-1[0.5]S		●		
		0.5	Surface	1279SBH1-2[0.5]S		●		
		0.5	Surface	1279SBH1-3[0.5]S		●		
		0.5	Surface	1279SBH1-4[0.5]S		●		
H2	Pothole	0.5	Surface	1279SBH2-1[0.5]S		●		
I1	Trench	0.5	Surface	1279TPI1-1[0.5]S		●		
I2	Trench	0.5	Surface	1279TPI2-1[0.5]S		●		
		1.5	Debris	1279TPI2-1[1.5]D	●		●	
		0.5	Surface	1279TPI2-2[0.5]S		●		
J1	Pothole	0.5	Surface	1279SBJ1-1[0.5]S		●		
		0.5	Surface	1279SBJ1-2[0.5]S		●		
J2	Pothole	0.5	Surface	1279SBJ2-1[0.5]S		●		
		0.5	Surface	1279SBJ2-2[0.5]S		●		
J3	Pothole	0.5	Surface	1279SBJ3-1[0.5]S		●		
		0.5	Surface	1279SBJ3-2[0.5]S		●		
		0.5	Surface	1279SBJ3-2[DUP]		●		
J4	Pothole	0.5	Surface	1279SBJ4-1[0.5]S		●		
		0.5	Surface	1279SBJ4-2[0.5]S		●		

TABLE 1
SOIL SAMPLING ANALYTICAL MATRIX TABLE
Lendrum Court Area
Presidio of San Francisco, California

Trench or Grid Area Location (a)	Trench or Pothole	Sample Depth (ft bgs)	Stratigraphic Layer (b)	Sample ID	Laboratory Analyses (c)			
					Title 22 Metals (EPA 6020)	Lead (EPA 6020)	PAHs (EPA 8270C)	Dioxins & Furans (EPA 1613)
K	Trench	0.5	Surface	1279TPK-1[0.5]S		●		
	Pothole	0.5	Surface	1279SBK-1[0.5]S		●		
		0.5	Surface	1279SBK-2[0.5]S		●		
		0.5	Surface	1279SBK-3[0.5]S		●		
		0.5	Surface	1279SBK-4[0.5]S		●		
L	Pothole	0.5	Surface	1279SBL-1[0.5]S		●		
		0.5	Surface	1279SBL-2[0.5]S		●		
		0.5	Surface	1279SBL-3[0.5]S		●		
				1279SBL-3[DUP]		●		
M	Pothole	0.5	Surface	1279SBM-1[0.5]S		●		
		0.5	Surface	1279SBM-2[0.5]S		●		
		0.5	Surface	1279SBM-3[0.5]S		●		

Abbreviations:
DUP – duplicate sample
EPA – United States Environmental Protection Agency
ft bgs – feet below ground surface
PAHs – polycyclic aromatic hydrocarbons
● – Analyzed
D - Sample taken within observed debris
S - Sample taken within surface soil

Notes:
(a) See Figure 3 for Trench Locations and Grid Areas.
(b) Samples were collected from the surface or the layer with observed debris.
(c) Soil samples were analyzed for lead or metals and PAHs by Curtis & Tompkins of Berkeley, California. Soil samples were analyzed for dioxins and furans by Vista Analytical Laboratory of El Dorado Hills, California.
(d) All soil samples were analyzed for percent moisture by ASTM D2216.

TABLE 2
SUMMARY OF SOIL RESULTS FOR METALS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results in mg/kg (a)(b)																
					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Samples collected from the Debris Layer																					
304	1279TP304-D[3.5]	9/22/2014	3.5	DEBRIS	0.40	**3.8**	280	0.51	0.66	110	17	83	**490**	0.27	0.66	120	0.31	0.21	0.10	55	470
305	1279TP305-D[3.5]	9/22/2014	3.5	DEBRIS	1.8	**7.2**	560	0.57	1.4	190	25	130	**950**	0.53	1.1	320	0.26	0.67	0.16	63	1,100
A1	1279TPA1-2[2.0]D	9/23/2014	2.0	ASH	2.7	**6.6**	630	0.79	1.5	55	10	140	**1,800**	1.5	1.1	58	0.32	0.92	0.14	71	890
F0	1279TPF0-1[1.5]D	9/24/2014	1.5	ASH	2.2	**6.4**	920	0.98	1.7	55	11	350	**2,400**	1.8	1.1	58	0.26	1.7	0.19	79	980
F2	1279TPF2-1[0.0-1.0]D	9/24/2014	1.0	ASH	1.8	**6.0**	830	1.0	1.5	100	18	160	**1,500**	2.1	1.1	130	0.28	1.5	0.18	84	740
	1279TPF2-1[DUP]	9/24/2014	1.0	DUP	3.8	**6.5**	810	1.1	1.4	96	14	170	**1,700**	1.9	1.2	110	0.33	1.4	0.19	86	790
G1	1279TPG1-2[0.5-1.5]D	9/24/2014	1.5	ASH	1.9	**6.6**	520	0.60	0.94	260	29	230	**1,300**	0.57	0.86	450	<0.25	0.83	0.13	65	610
Sample collected from the Asphalt Debris Layer																					
I2	1279TPI2-1[1.5]D	9/26/2014	1.5	Asphalt	<0.14	**3.9**	120	0.24	<0.16	290	40	30	**340**	0.065	<0.39	460	<0.20	0.30	0.14	47	56
SAMPLES COLLECTED FROM PREVIOUS INVESTIGATIONS																					
Samples collected from the Overburden																					
201	1279TP201-O[0.5]	6/17/2013	0.5		1.5	5.7	120	0.48	<0.26	67	13	18	**320**	0.094	0.53	50	<0.22	<0.13	0.25	55	63
202	1279TP202-O[0.75]	6/19/2013	0.75		0.31	4.1	130	0.43	<0.27	260	24	36	**130**	0.17	0.56	350	<0.23	<0.14	<0.069	56	110
203	1279TP203-O[1]	6/17/2013	1		1.6	5.3	170	0.54	<0.26	140	19	37	**260**	0.13	0.66	180	0.42	0.13	0.17	61	95
204	1279TP204-O[0.5]	6/20/2013	0.5		0.7	5.6	260	0.44	0.38	260	27	88	**510**	0.59	0.61	410	<0.22	0.33	0.27	58	290
205	1279TP205-O[0.5]	6/17/2013	0.5		4.6	8	130	0.44	<0.25	110	16	26	**1,000**	0.11	0.54	150	<0.21	<0.12	0.52	52	75
206	1279TP206-O[0.5]	6/20/2013	0.5		0.68	4.3	170	0.48	0.46	220	23	52	**230**	0.31	0.53	330	<0.21	0.22	0.11	52	200
207	1279TP207-O[0.5]	6/20/2013	0.5		1.1	6.5	290	0.41	0.63	190	30	89	**550**	0.63	0.43	390	<0.22	0.45	0.23	44	350
208	1279TP208-O[0.5]	6/19/2013	0.5		0.98	5.9	200	0.52	0.32	200	22	68	**250**	0.5	0.62	290	0.31	0.28	0.16	61	190
209	1279TP209-O[0.5]	6/19/2013	0.5		0.31	4.5	160	0.41	0.31	140	23	45	**210**	0.24	0.42	280	<0.22	0.18	<0.067	43	160
210	1279TP210-O[0.5]	6/19/2013	0.5		0.27	5	120	0.35	0.26	140	19	28	**180**	0.39	0.33	230	0.28	<0.13	<0.065	38	110
211	1279TP211-O[0.75]	6/18/2013	0.75		0.25	2.8	89	0.3	<0.25	120	18	15	38	0.088	0.29	210	<0.21	<0.13	<0.063	35	61
211	1279TP211-O[DUP]	6/18/2013	0.75	DUP	0.35	3.5	98	0.29	<0.26	120	18	15	32	0.071	0.3	180	<0.22	<0.13	<0.065	42	51
212	1279TP212-O[0.5]	6/18/2013	0.5		<0.23	3.3	89	0.32	<0.26	72	13	15	34	0.075	<0.26	88	<0.22	<0.13	<0.065	35	97
213	1279TP213-O[0.5]	6/18/2013	0.5		0.26	3.5	96	0.38	<0.26	150	21	20	53	0.11	0.4	260	<0.22	<0.13	<0.066	41	63
213	1279TP213-O[DUP]	6/18/2013	0.5	DUP	0.33	3.7	90	0.37	<0.26	170	21	19	60	0.12	0.44	270	<0.22	<0.13	<0.066	41	81
214	1279TP214-O[0.5]	6/18/2013	0.5		1.5	5	130	0.45	<0.25	86	14	20	**160**	0.09	0.42	76	<0.21	<0.13	<0.063	60	54
215	1279TP215-O[0.5]	6/17/2013	0.5		0.6	4.9	120	0.47	<0.26	130	19	22	**120**	0.16	0.69	170	<0.22	<0.13	<0.066	58	59
Residential Soil Screening Level (c)					*29*	*0.36*	*5,000*	*140*	*1.7*	*1,200*	*4,000*	*--*	*80*	*20*	*360*	*1,400*	*360*	*360*	*5.7*	*650*	*22,000*
Ecological Buffer Zone Soil Screening Level (c)					*5*	*64*	*500*	*10*	*0.23*	*23*	*48*	*120*	*300*	*1.6*	*300*	*71*	*1.1*	*2*	*1*	*5*	*50*
Colma Formation/Serpentinite Presidio Background Metals Concentrations (d)					*3/3*	*6.2/5.4*	*180/230*	*0.99/1.1*	*0.8/1.9*	*140/1,700*	*21/170*	*49/85*	*7.5/66*	*0.2/0.2*	*2/2*	*110/4,500*	*0.5/0.5*	*1/1.7*	*1/1*	*90/74*	*79/160*

TABLE 2
SUMMARY OF SOIL RESULTS FOR METALS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results in mg/kg (a)(b)																
					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Samples collected from the Debris Layer																					
T1	1258EX100	10/20/2010	comp(c)	ASH	2	4.7	400	0.55	0.4	59	12	110	**340**	0.46	1.1	93	1	0.49	<0.55	51	200
202	1279TP202-D[5.5]	6/19/2013	5.5	ASH	0.85	5.9	710	0.95	0.82	300	35	150	**740**	0.75	1.6	530	0.43	0.66	0.42	85	450
203	1279TP203-D[3.5]	6/17/2013	3.5	ASH	0.93	4.9	480	0.87	**2.7**	52	15	150	**380**	0.6	1.4	110	0.61	0.72	0.18	67	1,000
204	1279TP204-D[2.5]	6/20/2013	2.5	DEBRIS	0.74	6.1	300	0.28	0.54	520	50	440	**490**	0.28	0.66	960	<0.22	0.56	0.27	64	320
205	1279TP205-D[1]	6/17/2013	1	DEBRIS	2.4	6	210	0.57	0.31	74	14	120	**480**	0.2	0.67	72	0.24	0.21	0.2	58	190
206	1279TP206-D[2.5]	6/20/2013	2.5	ASH	2.5	7.4	770	0.8	1.1	97	14	160	**1,100**	0.87	0.97	120	0.35	1	0.62	73	700
207	1279TP207-D[1]	6/20/2013	1	ASH	3.4	8.9	580	0.6	1.4	81	16	190	**2,100**	0.88	1	120	0.27	1.1	1	58	910
207	1279TP207-D[1]DUP	6/20/2013	1	ASH/DUP	3.4	10	600	0.59	1.6	98	22	190	**1,700**	0.69	1.2	160	<0.24	1.2	0.85	63	940
208	1279TP208-D[2]	6/19/2013	2	ASH	1.3	5.7	700	1.2	1.1	68	13	290	**960**	1.1	1.3	64	0.57	4.1	0.61	110	560
209	1279TP209-D[4]	6/19/2013	4	DEBRIS	0.26	3.4	110	0.31	<0.27	180	23	20	59	0.19	0.29	300	<0.22	<0.13	<0.067	39	90
210	1279TP210-D[1]	6/19/2013	1	DEBRIS	0.26	3.4	140	0.3	<0.26	84	16	23	**97**	0.11	0.36	130	0.26	<0.13	0.14	40	80
210	1279TP210-D[1]DUP	6/19/2013	1	DUP	<0.24	3.4	140	0.27	<0.26	94	17	26	61	0.11	0.29	140	0.22	<0.13	<0.066	42	99
212	1279TP212-D[2]	6/18/2013	2		<0.24	2.5	93	0.26	<0.27	59	11	12	24	0.074	0.56	92	<0.23	<0.14	<0.068	33	51
214	1279TP214-D[2]	6/18/2013	2	DEBRIS	2.4	6.6	390	0.52	0.31	68	11	61	**660**	1.1	0.53	58	<0.22	0.22	0.43	58	160
215	1279TP215-D[1.25]	6/17/2013	1.25	DEBRIS	0.35	4.7	140	0.55	<0.25	82	14	20	**120**	0.094	0.44	65	0.24	<0.13	<0.063	59	59
Residential Soil Screening Level (c)					*29*	*6.2*	*5,000*	*140*	*1.7*	*1,200*	*4,000*	*--*	*80*	*20*	*360*	*1,400*	*360*	*360*	*5.7*	*650*	*22,000*
Ecological Buffer Zone Soil Screening Level (c)					*5*	*64*	*500*	*10*	*0.23*	*23*	*48*	*120*	*300*	*1.6*	*300*	*71*	*1.1*	*2*	*1*	*5*	*50*
Colma Formation/Serpentinite Presidio Background Metals Concentrations (d)					*3/3*	*6.2/5.4*	*180/230*	*0.99/1.1*	*0.8/1.9*	*140/1700*	*21/170*	*49/85*	*7.5/66*	*0.2/0.2*	*2/2*	*110/4,500*	*0.5/0.5*	*1/1.7*	*1/1*	*90/74*	*79/160*

TABLE 2
SUMMARY OF SOIL RESULTS FOR METALS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results in mg/kg (a)(b)																
					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Samples collected from the Base																					
201	1279TP201-B[2]	6/17/2013	2		<0.24	4.9	120	0.52	<0.27	75	17	19	8.4	0.042	0.55	52	<0.22	<0.13	<0.066	63	42
202	1279TP202-B[6.5]	6/19/2013	6.5		<0.25	4	150	0.49	<0.28	890	91	35	50	0.08	0.66	1,800	<0.23	<0.14	<0.069	70	75
203	1279TP203-B[6]	6/17/2013	6		0.25	5.5	170	0.56	<0.26	130	23	27	23	0.063	0.77	110	<0.22	<0.13	0.11	66	65
206	1279TP206-B[3.5]	6/20/2013	3.5		0.25	3.6	79	0.32	<0.25	100	14	14	43	0.034	0.42	83	<0.21	<0.13	<0.063	43	51
210	1279TP210-B[2.5]	6/19/2013	2.5		<0.24	4.4	97	0.45	<0.26	56	18	13	9	0.11	0.51	40	<0.22	<0.13	<0.066	53	42
212	1279TP212-B[3.5]	6/18/2013	3.5		<0.25	3.2	110	0.41	<0.28	58	9.3	12	6.2	0.031	0.42	41	0.3	<0.14	<0.069	50	40
Residential Soil Screening Level (c)					*29*	*6.2*	*5,000*	*140*	*1.7*	*1,200*	*4,000*	*--*	*80*	*20*	*360*	*1,400*	*360*	*360*	*5.7*	*650*	*22,000*
Ecological Buffer Zone Soil Screening Level (c)					*5*	*64*	*500*	*10*	*0.23*	*23*	*48*	*120*	*300*	*1.6*	*300*	*71*	*1.1*	*2*	*1*	*5*	*50*
Colma Formation/Serpentinite Presidio Background Metals Concentrations (d)					*3/3*	*6.2/5.4*	*180/230*	*0.99/1.1*	*0.8/1.9*	*140/1700*	*21/170*	*49/85*	*7.5/66*	*0.2/0.2*	*2/2*	*110/4,500*	*0.5/0.5*	*1/1.7*	*1/1*	*90/74*	*79/160*

Abbreviations:
-- - Not applicable
<0.50 - Compound not detected at or above indicated laboratory reporting limit
ASH - Ash observed in debris layer
Base - Below "Debris layer"
DEBRIS - Army era debris observed in soil
Debris - Debris layer
DUP - duplicate sample
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram
Overburden - Overburden layer

Notes:
(a) Samples were analyzed by Curtis & Tompkins, Ltd, of Berkeley, California using EPA Method 6020/7471A. Results are reported to two significant figures.
(b) **Bold** value indicates detected concentration exceeds the Residential Soil Screening Level and background metals concentration. Underscored value indicates detected concentration exceeds the Ecological Buffer Zone Screening Level and background metals concentration.
(c) Residential Soil Screening Levels are Residential Human Health Preliminary Remediation Goals ("PRGs") from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013).
For lead, the California Human Health Screening Level of 80 mg/kg is applied (DTSC, 2013). Ecological Buffer Zone Soil Screening Levels are PRGs from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013).
(d) Site lithology is a mixture of Colma Formation and serpentine. For screening purposes, site concentrations are compared with the higher of the two background values.
(e) This sample is a composite of two discrete samples collected from the ash and debris layer at Trench T1 from depths of 4 and 7 feet below ground surface.

TABLE 3
SUMMARY OF SOIL RESULTS FOR LEAD
Lendrum Court Area
Presidio of San Francisco, California

Sample Location (a)	Trench or Pothole	Sample ID	Sample Date	Sample Depth (ft bgs)	Lead (mg/kg) (b) (c)
301	Trench	1279TP301-S[0.5]	9/22/2014	0.5	44
302	Trench	1279TP302-S[0.5]	9/22/2014	0.5	**110**
303	Trench	1279TP303-S[0.5]	9/22/2014	0.5	38
A1	Trench	1279TPA1-1[0.5]S	9/23/2014	0.5	62
	Pothole	1279SBA1-1[0.5]S	9/25/2014	0.5	23
A2	Pothole	1279SBA2-1[0.5]S	9/23/2014	0.5	43
		1279SBA2-3[0.5]S	9/25/2014	0.5	16
		1279SBA2-4[0.5]S	9/25/2014	0.5	28
		1279SBA2-5[0.5]S	9/25/2014	0.5	26
B1	Pothole	1279SBB1-1[0.5]S	9/23/2014	0.5	**290**
C1	Pothole	1279SBC1-1[0.5]S	9/23/2014	0.5	**490**
D1	Pothole	1279SBD1-1[0.5]S	9/23/2014	0.5	**270**
D2	Pothole	1279SBD2-1[0.5]S	9/24/2014	0.5	71
E1	Pothole	1279SBE1-1[0.5]S	9/23/2014	0.5	**220**
		1279SBE1-2[0.5]S	9/23/2014	0.5	50
G2	Pothole	1279SBG2-1[0.5]S	9/24/2014	0.5	**110**
H0	Pothole	1279SBH0-2[0.5]S	9/24/2014	0.5	**160**
H1	Pothole	1279SBH1-1[0.5]S	9/24/2014	0.5	**110**
		1279SBH1-2[0.5]S	9/24/2014	0.5	66
		1279SBH1-3[0.5]S	9/24/2014	0.5	**94**
		1279SBH1-4[0.5]S	9/24/2014	0.5	**170**
H2	Pothole	1279SBH2-1[0.5]S	9/24/2014	0.5	7
I1	Trench	1279TPI1-1[0.5]S	9/26/2014	0.5	**150**
I2	Trench	1279TPI2-1[0.5]S	9/26/2014	0.5	54
		1279TPI2-2[0.5]S	9/26/2014	0.5	54
K	Trench	1279TPK-1[0.5]S	9/25/2014	0.5	**230**
	Pothole	1279SBK-1[0.5]S	9/25/2014	0.5	**81**
		1279SBK-2[0.5]S	9/25/2014	0.5	**83**
		1279SBK-3[0.5]S	9/25/2014	0.5	**94**
		1279SBK-4[0.5]S	9/25/2014	0.5	**340**

TABLE 3
SUMMARY OF SOIL RESULTS FOR LEAD
Lendrum Court Area
Presidio of San Francisco, California

Sample Location (a)	Trench or Pothole	Sample ID	Sample Date	Sample Depth (ft bgs)	Lead (mg/kg) (b) (c)
L	Pothole	1279SBL-1[0.5]S	9/25/2014	0.5	37
		1279SBL-2[0.5]S	9/25/2014	0.5	69
		1279SBL-3[0.5]S	9/26/2014	0.5	54
		1279SBL-3[DUP]	9/26/2014	0.5	52
M	Pothole	1279SBM-1[0.5]S	9/25/2014	0.5	67
		1279SBM-2[0.5]S	9/25/2014	0.5	52
		1279SBM-3[0.5]S	9/25/2014	0.5	67
Residential Soil Screening Level (d)					*80*
Ecological Buffer Zone Soil Screening Level (d)					*300*

Abbreviations:
DUP - duplicate sample
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram

Notes:
(a) See Figure 3 for Trench Locations and Grid Areas.
(b) Samples were analyzed by Curtis & Tompkins, Ltd, of Berkeley, California using EPA Method 6020. Results are reported to two significant figures.
(c) **Bold** value indicates detected concentration exceeds the Residential Soil Screening Level and background metals concentration. Underscored value indicates detected concentration exceeds the Ecological Buffer Zone Screening Level and background metals concentration.
(d) Residential Soil Screening Level is the California Human Health Screening Level of 80 mg/kg (DTSC, 2013). Ecological Buffer Zone Soil Screening Level is the PRG from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013).

TABLE 4
SUMMARY OF SOIL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results (mg/kg) (a)(b) Polycyclic Aromatic Hydrocarbons: Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalents (c)
Samples collected from the Debris Layer																					
304	1279TP304-D[3.5]	9/22/2014	3.5	DEBRIS	<0.021	<0.021	<0.021	<0.021	<0.021	0.03	<0.021	<0.021	0.024	<0.021	0.035	<0.021	<0.021	<0.021	<0.021	0.031	0.026
305	1279TP305-D[3.5]	9/22/2014	3.5	DEBRIS	<0.021	<0.021	<0.021	0.045	**0.049**	0.076	0.028	<0.021	0.06	<0.021	0.076	<0.021	0.023	<0.021	0.032	0.072	**0.074**
A1	1279TPA1-2[2.0]D	9/23/2014	2.0	ASH	<0.021	<0.021	<0.021	0.066	**0.068**	0.10	0.036	0.030	0.085	<0.021	0.15	<0.021	0.031	<0.021	0.11	0.13	**0.099**
F0	1279TPF0-1[1.5]D	9/24/2014	1.5	ASH	0.020	0.017	0.059	0.15	**0.14**	0.18	0.043	0.068	0.17	0.017	0.30	0.031	0.043	0.022	0.25	0.29	**0.20**
F2	1279TPF2-1[0.0-1.0]D	9/24/2014	1.0	ASH	<0.011	<0.011	<0.011	0.024	0.031	0.048	0.018	0.015	0.036	<0.011	0.047	<0.011	0.014	<0.011	0.033	0.05	0.045
	1279TPF2-1[DUP]	9/24/2014	1.0	DUP	<0.010	0.013	<0.010	0.076	**0.071**	0.12	0.025	0.040	0.099	<0.010	0.11	<0.010	0.023	0.011	0.075	0.12	**0.098**
G1	1279TPG1-2[0.5-1.5]D	9/24/2014	1.5	ASH	<0.010	<0.010	<0.010	0.015	0.016	0.027	<0.010	<0.010	0.020	<0.010	0.023	<0.010	<0.010	<0.010	0.013	0.024	0.026
Sample collected from the Asphalt Debris Layer																					
I2	1279TPI2-1[1.5]D	9/26/2014	1.5	Asphalt	<0.10	<0.10	<0.10	<0.10	**<0.10**	<0.10	<0.10	<0.10	<0.10	**<0.10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**ND**
Residential Soil Screening Level (d)					*2,700*	*--*	*5,900*	*0.46*	*0.046*	*0.46*	*620*	*4.6*	*res a*	*0.046*	*820*	*770*	*0.46*	*910*	*600*	*620*	*0.046*
Ecological Buffer Zone Soil Screening Level (d)					*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*
Northern California PAH Background (e)					*--*	*--*	*--*	*--*	*1.5*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.5*

TABLE 4
SUMMARY OF SOIL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results (mg/kg) (a)(b) Polycyclic Aromatic Hydrocarbons: Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalents (c)
SAMPLES COLLECTED FROM PREVIOUS INVESTIGATIONS																					
Samples collected from the Overburden																					
201	1279TP201-O[0.5]	6/17/2013	0.5		<0.0052	<0.0052	<0.0052	0.0091	0.012	0.017	0.0099	<0.0052	0.011	<0.0052	0.018	<0.0052	0.01	<0.0052	0.0076	0.015	0.018
202	1279TP202-O[0.75]	6/19/2013	0.75		<0.0055	<0.0055	<0.0055	<0.0055	0.0061	0.011	0.0055	<0.0055	0.0091	<0.0055	0.0094	<0.0055	<0.0055	<0.0055	0.006	0.0075	0.011
203	1279TP203-O[1]	6/17/2013	1		<0.0053	<0.0053	<0.0053	0.02	0.023	0.037	0.013	0.0089	0.022	0.0053	0.03	<0.0053	0.014	<0.0053	0.013	0.026	0.036
204	1279TP204-O[0.5]	6/20/2013	0.5		<0.0052	<0.0052	<0.0052	0.019	0.021	0.042	0.014	0.011	0.024	0.0056	0.032	<0.0052	0.016	0.0065	0.014	0.028	0.034
205	1279TP205-O[0.5]	6/17/2013	0.5		<0.0052	<0.0052	0.011	0.059	**0.064**	0.095	0.037	0.023	0.062	0.018	0.1	<0.0052	0.043	0.015	0.047	0.076	**0.10**
206	1279TP206-O[0.5]	6/20/2013	0.5		<0.0052	<0.0052	<0.0052	0.015	0.024	0.037	0.02	0.01	0.018	0.0075	0.031	<0.0052	0.021	<0.0052	0.02	0.026	0.039
207	1279TP207-O[0.5]	6/20/2013	0.5		<0.0053	0.0082	<0.0053	0.017	0.02	0.026	0.014	0.036	0.022	<0.0053	0.034	0.01	0.016	0.008	0.022	0.028	0.029
208	1279TP208-O[0.5]	6/19/2013	0.5		<0.0052	<0.0052	<0.0052	0.011	0.012	0.018	0.0085	<0.0052	0.014	<0.0052	0.018	<0.0052	0.0076	<0.0052	0.011	0.013	0.018
209	1279TP209-O[0.5]	6/19/2013	0.5		<0.0054	<0.0054	<0.0054	0.0073	0.0083	0.013	<0.0054	<0.0054	0.0092	<0.0054	0.0095	<0.0054	<0.0054	<0.0054	0.006	0.013	0.013
210	1279TP210-O[0.5]	6/19/2013	0.5		<0.0053	<0.0053	<0.0053	0.0095	0.01	0.017	0.0053	<0.0053	0.011	<0.0053	0.019	<0.0053	<0.0053	<0.0053	0.012	0.014	0.016
211	1279TP211-O[0.75]	6/18/2013	0.75		<0.0053	<0.0053	<0.0053	0.0077	0.0097	0.021	<0.0053	0.0062	0.0095	<0.0053	0.014	<0.0053	<0.0053	<0.0053	0.0061	0.011	0.016
211	1279TP211-O[DUP]	6/18/2013	0.75	DUP	<0.0053	<0.0053	<0.0053	0.0054	0.0054	0.0087	<0.0053	<0.0053	<0.0053	<0.0053	0.0072	<0.0053	<0.0053	<0.0053	<0.0053	0.0065	0.01
212	1279TP212-O[0.5]	6/18/2013	0.5		<0.0052	<0.0052	<0.0052	0.0071	0.008	0.012	<0.0052	<0.0052	0.0086	<0.0052	0.013	<0.0052	<0.0052	<0.0052	0.0062	0.012	0.013
213	1279TP213-O[0.5]	6/18/2013	0.5		<0.0052	0.006	<0.0052	0.0057	0.006	0.025	<0.0052	0.013	0.0089	<0.0052	0.0099	0.01	<0.0052	<0.0052	<0.0052	0.0089	0.012
213	1279TP213-O[DUP]	6/18/2013	0.5	DUP	<0.011	<0.011	<0.011	0.016	0.014	0.046	<0.011	0.025	0.018	<0.011	0.032	<0.011	<0.011	<0.011	0.013	0.027	0.027
214	1279TP214-O[0.5]	6/18/2013	0.5		<0.0053	<0.0053	<0.0053	0.0065	0.0079	0.012	0.0063	<0.0053	0.0079	<0.0053	0.011	0.051	0.0062	<0.0053	0.0061	0.01	0.013
215	1279TP215-O[0.5]	6/17/2013	0.5		<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	0.0084	<0.0051	<0.0051	<0.0051	<0.0051	0.0061	<0.0051	<0.0051	<0.0051	<0.0051	0.0056	0.006
Residential Soil Screening Level (d)					*2,700*	*--*	*5,900*	*0.46*	*0.046*	*0.46*	*620*	*4.6*	*46.0*	*0.046*	*820*	*770*	*0.46*	*910*	*600*	*620*	*0.046*
Ecological Buffer Zone Soil Screening Level (d)					*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*
Northern California PAH Background (e)					*--*	*--*	*--*	*--*	*1.5*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.5*

TABLE 4
SUMMARY OF SOIL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results (mg/kg) (a)(b) Polycyclic Aromatic Hydrocarbons																
					Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalents (c)
Samples collected from the Debris Layer																					
T1	1258EX100	10/20/2010	comp (f)	ASH	<0.18	<0.37	<0.018	0.22	**0.31**	0.29	0.67	0.15	0.25	**0.69**	0.38	<0.037	**0.59**	<0.18	0.18	0.34	**1.1**
202	1279TP202-D[5.5]	6/19/2013	5.5	ASH	<0.0054	<0.0054	<0.0054	0.023	0.026	0.049	0.0075	0.012	0.027	<0.0054	0.035	<0.0054	0.0086	0.0095	0.02	0.039	0.037
203	1279TP203-D[3.5]	6/17/2013	3.5	ASH	<0.0056	0.0079	0.014	0.086	**0.12**	0.23	0.098	0.046	0.079	0.036	0.09	<0.0056	0.16	<0.0056	0.037	0.077	**0.20**
204	1279TP204-D[2.5]	6/20/2013	2.5		<0.0053	<0.0053	<0.0053	0.011	0.01	0.021	0.0092	0.0058	0.014	<0.0053	0.021	<0.0053	0.0095	<0.0053	0.0093	0.017	0.017
205	1279TP205-D[1]	6/17/2013	1		<0.0051	<0.0051	<0.0051	0.016	0.017	0.033	0.012	0.0079	0.023	0.0052	0.029	<0.0051	0.014	0.0085	0.013	0.024	0.029
206	1279TP206-D[2.5]	6/20/2013	2.5	ASH	<0.0051	0.0068	0.0068	0.035	**0.049**	0.069	0.026	0.019	0.039	0.011	0.069	<0.0051	0.03	0.016	0.044	0.055	**0.074**
207	1279TP207-D[1]	6/20/2013	1	ASH	<0.0052	<0.0052	0.0057	0.045	**0.057**	0.094	0.032	0.024	0.047	0.013	0.049	<0.0052	0.038	0.011	0.022	0.047	**0.088**
207	1279TP207-D[1]DUP	6/20/2013	1	ASH/DUP	<0.0057	<0.0057	0.0058	0.063	**0.097**	0.092	0.067	0.017	0.064	**0.056**	0.041	<0.0057	0.05	0.018	0.025	0.039	**0.17**
208	1279TP208-D[2]	6/19/2013	2	ASH	<0.0053	0.0059	0.0065	0.035	0.038	0.057	0.008	0.014	0.04	<0.0053	0.065	<0.0053	0.0099	0.0071	0.031	0.065	**0.051**
209	1279TP209-D[4]	6/19/2013	4		<0.0054	0.0085	<0.0054	0.012	0.012	0.063	<0.0054	0.02	0.013	<0.0054	0.023	0.015	0.0083	<0.0054	0.012	0.016	0.023
210	1279TP210-D[1]	6/19/2013	1		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	0.0088	<0.0053	<0.0053	0.0058	<0.0053	0.0067	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	0.007
210	1279TP210-D[1]DUP	6/19/2013	1	DUP	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	0.0075	0.0055	<0.0053	0.0055	<0.0053	0.0071	<0.0053	<0.0053	<0.0053	<0.0053	0.0056	0.007
212	1279TP212-D[2]	6/18/2013	2		<0.011	<0.011	<0.011	<0.011	<0.011	0.015	<0.011	<0.011	<0.011	<0.011	0.012	<0.011	<0.011	<0.011	<0.011	<0.011	0.014
214	1279TP214-D[2]	6/18/2013	2		<0.0053	0.012	0.01	0.064	**0.079**	0.15	0.066	0.034	0.074	0.025	0.1	<0.0053	0.091	0.0096	0.045	0.09	**0.13**
215	1279TP215-D[1.25]	6/17/2013	1.25		<0.01	<0.01	<0.01	<0.01	0.014	0.018	0.011	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	0.012	0.022
Residential Soil Screening Level (d)					*2,700*	*--*	*5,900*	*0.46*	*0.046*	*0.46*	*620*	*4.6*	*46.0*	*0.046*	*820*	*770*	*0.46*	*910*	*600*	*620*	*0.046*
Ecological Buffer Zone Soil Screening Level (d)					*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*
Northern California PAH Background (e)					*--*	*--*	*--*	*--*	*1.5*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.5*

TABLE 4
SUMMARY OF SOIL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results (mg/kg) (a)(b) Polycyclic Aromatic Hydrocarbons: Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalents (c)
Samples collected from the Base																					
201	1279TP201-B[2]	6/17/2013	2		<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	ND
202	1279TP202-B[6.5]	6/19/2013	6.5		<0.0055	<0.0055	<0.0055	0.012	0.017	0.019	0.0072	<0.0055	0.014	<0.0055	0.017	<0.0055	0.007	<0.0055	0.013	0.023	0.024
203	1279TP203-B[6]	6/17/2013	6		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	0.0054	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	0.006
206	1279TP206-B[3.5]	6/20/2013	3.5		<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	ND
210	1279TP210-B[2.5]	6/19/2013	2.5		<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	ND
212	1279TP212-B[3.5]	6/18/2013	3.5		<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	ND
Residential Soil Screening Level (d)					*2,700*	*--*	*5,900*	*0.46*	*0.046*	*0.46*	*620*	*4.6*	*46.0*	*0.046*	*820*	*770*	*0.46*	*910*	*600*	*620*	*0.046*
Ecological Buffer Zone Soil Screening Level (d)					*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*	*40*
Northern California PAH Background (e)					*--*	*--*	*--*	*--*	*1.5*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.5*

Abbreviations:

-- - Not applicable
<0.50 or ND - Compound not detected at or above indicated laboratory reporting limit
ASH - Ash observed in debris layer
B(a)P - Benzo(a)pyrene
Base - Below "Debris layer"
Debris - Debris layer
DUP - duplicate sample
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram
Overburden - Overburden layer

Notes:

(a) Samples were analyzed by Curtis & Tompkins, Ltd, of Berkeley, California using EPA Method 8270C-SIM for PAHs. Results are reported to two significant figures.
(b) **Bold** value indicates detected concentration exceeds its respective Residential Soil Screening Level.
(c) Benzo(a)pyrene equivalents calculated with Toxicity Equivalency Factors for Carcinogenic Polycyclic Aromatic Hydrocarbons from EPA Region 9 Regional Screening Levels User's Guide, November 2013. For PAHs not included in the November 2013 User's Guide, values from the June 2011 HHRA Note Number 4 were used, as requested by DTSC. Values of one half the detection limit are used for results below the detection limit.
(d) Residential Soil Screening Levels are Residential Human Health Preliminary Remediation Goals ("PRGs") from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013).
Ecological Buffer Zone Soil Screening Levels are PRGs from Tables 7-2 and 7-5 of the Cleanup Level Document (EKI, 2002; with updates through 2013).
(e) Northern California upper tolerance limit background concentration for benzo(a)pyrene potency equivalent is from ENVIRON, et al., 2002. The background concentrations in this study ranged from 0.0027 mg/kg to 2.8 mg/kg.
(f) This sample is a composite of two discrete samples collected from the ash and debris layer at Trench T1 from depths of 4 and 7 feet below ground surface.

TABLE 5
SUMMARY OF SOIL RESULTS FOR DIOXINS AND FURANS
Lendrum Court Area
Presidio of San Francisco, California

Trench Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Note	Analytical Results (pg/g) (a)																	
					2,3,7,8-Tetrachlorodibenzo-p-dioxin	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1,2,3,7,8-Pentachlorodibenzofuran	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,4,7,8-Hexachlorodibenzofuran	2,3,7,8-Tetrachlorodibenzofuran	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,7,8-Pentachlorodibenzofuran	Octachlorodibenzofuran	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	Octachlorodibenzo-p-dioxin	1,2,3,4,6,7,8-Heptachlorodibenzofuran	TCDD TEQ (b)
Samples collected from the Debris Layer																						
304	1279TP304-D[3.5]	9/22/2014	3.5	DEBRIS	<1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	1.63	<5.00	<5.00	<10.0	<5.00	23.2	<5.00	1.26
305	1279TP305-D[3.5]	9/22/2014	3.5	DEBRIS	<1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	4.97	6.01	5.49	<10.0	<5.00	29.2	16.2	4.90
A1	1279TPA1-2[2.0]D	9/23/2014	2.0	ASH	<1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	7.91	6.66	6.71	12.5	7.99	11.9	14.5	9.39	32.4	29.8	9.53
F0	1279TPF0-1[1.5]D	9/24/2014	1.5	ASH	1.05	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	9.50	9.54	10.2	15.5	12.3	17.8	17.3	14.2	34.8	50.1	15.7
F2	1279TPF2-1[0.0-1.0]D	9/24/2014	1.0	ASH	<1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	7.55	7.07	7.12	12.3	9.17	13.5	24.6	18.0	99.9	34.1	12.0
	1279TPF2-1[DUP]	9/24/2014	1.0	DUP	1.14	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	8.12	7.61	7.58	14.6	9.53	14.0	15.0	19.6	85.8	32.4	13.2
G1	1279TPG1-2[0.5-1.5]D	9/24/2014	1.5	ASH	<1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	6.73	7.28	6.18	8.95	8.38	20.6	22.7	95.1	37.8	8.04
SAMPLES COLLECTED FROM PREVIOUS INVESTIGATIONS																						
Sample collected from the Overburden																						
203	1279TP203-O[1]	6/17/2013	1	Overburden	1.79	<5	<5	<5	<5	<5	<5	6.12	7.58	7.72	9.24	9.39	10.5	11	12.8	28.4	37.9	14
Samples collected from the Debris Layer																						
T1	1258EX100	10/20/2010	comp (c)		4.26 J	3.42 J	4.94 J	7.90 J	7.16 J	0.66 J	4.40 J	6.29 J	7.78 J	11.8 J	21.7	6.15 J	9.09 J	22.9 J	36	39	42	17.8
202	1279TP202-D[5.5]	6/19/2013	5.5	Debris	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	1.26	<5	<5	<10	<5	20.9	<5	0.738
203	1279TP203-D[3.5]	6/17/2013	3.5	Debris	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	2.14	<5	<5	<10	<5	<10	<5	1.11
204	1279TP204-D[2.5]	6/20/2013	2.5	Debris	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<5	<5	<10	<5	<10	<5	0.0033
Sample collected from the Base																						
203	1279TP203-B[6]	6/17/2013	6	Base	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	3.13	<5	<5	50.5	44.8	331	22.3	4.04
Residential Soil Screening Level (d)																						*3.5*
TCDD TEQ Background Range (DTSC, 2010)																						*7 to 20*

TABLE 5
SUMMARY OF SOIL RESULTS FOR DIOXINS AND FURANS
Lendrum Court Area
Presidio of San Francisco, California

Abbreviations:
<0.50 - Compound not detected at or above indicated laboratory reporting limit
ASH - Ash observed in debris layer
DUP - duplicate sample
ft bgs - feet below ground surface
J - Estimated concentration
pg/g - picograms per gram
TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ - toxic equivalent quotient

Notes:
(a) Samples collected in 2013 and 2014 were analyzed by Vista Analytical Laboratory of El Dorado Hills, California using EPA Method 1613B for dioxins and furans.
(b) TCDD TEQ value calculated by the analytical laboratory using 2005 World Health Organization Toxicity Equivalent Factors. See laboratory sheets for details.
(c) This sample is a composite of two discrete samples collected from the ash and debris layer at Trench T1 from depths of 4 and 7 feet below ground surface. Composite sample was analyzed by Maxxam Analytics of Ontario, Canada using EPA Method 8290.
(d) Residential Preliminary Remediation Goal from Technical Memorandum, Human Health Soil Preliminary Goals and Toxic Equivalency Values for Dioxins and Furans, Presidio of San Francisco, California (MACTEC, 2007) [update to the Presidio Cleanup Level Document (EKI, 2002)].

Reference:
DTSC, 2010. Memorandum from Kimiko Klein to Virginia Lasky regarding *Screening Risk Evaluation, Merchant Road Land Fill, The Presidio, San Francisco* , dated 25 August 2010.

TABLE 6A
SCREENING RISK EVALUATION FOR CHEMICALS INSIDE THE DEBRIS FILL EXTENTS
Lendrum Court Area
Presidio of San Francisco, California

Potential Chemicals of Concern	Sample Depth Range	Summary of Soil Analytical Data			95% Upper Confidence Limit / Exposure Point Concentration (UCL) (b)		EPA EPC in Soil	Applicable Presidio-Wide Soil Screening Levels (d)					Does EPC Exceed Residential Screening Level and Background Level?	Does EPC Exceed Industrial Worker Screening Level and Background Level?	Does EPC Exceed Ecological Screening Level and Background Level?	Does PAH EPC Exceed Northern California Background Level?
		Number of Samples Detected / Number of Samples Analyzed	Minimum Detected Concentration	Maximum Detected Concentration				Colma Background Levels (e)	Serpentinite Background Levels (e)	Residential Screening Level	Industrial Worker Screening Level	Ecological Screening Level				
	(ft bgs)		mg/kg (a)	mg/kg (a)	mg/kg (a)	Statistic (c)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)				
Human Health PCOCs																
Arsenic	0 to 2.5	29 / 29	3.4	10	6.3	1	6.3	6.2	5.4	0.36	3.3	--	**Yes**	**Yes**	--	--
	0 to 6.5	38 / 38	3.4	10	6.0	1	6.0	6.2	5.4	0.36	3.3	--	No	No	--	--
Lead	0 to 2.5	30 / 30	8.4	2,400	1,023	2	1,023	7.5	66	80	320	--	**Yes**	**Yes**	--	--
	0 to 6.5	39 / 39	8.4	2,400	856	2	856	7.5	66	80	320	--	**Yes**	**Yes**	--	--
Benzo(a)pyrene	0 to 2.5	24 / 29	0.0061	0.14	0.046	4	0.046	--	--	0.046	0.38	--	No	No	--	No
	0 to 6.5	30 / 38	0.0061	0.31	0.057	3	0.057	--	--	0.046	0.38	--	**Yes**	No	--	No
B(a)P Equivalents	0 to 2.5	27 / 29	0.0065	0.20	0.074	2	0.074	--	--	0.046	0.38	--	**Yes**	No	--	No
	0 to 6.5	35 / 38	0.0064	1.1	0.221	5 (g)	0.221	--	--	0.046	0.38	--	**Yes**	No	--	No
Dibenz(a,h)anthracene	0 to 2.5	10 / 29	0.0052	0.056	0.012	6	0.012	--	--	0.046	0.38	--	No	No	--	No
	0 to 6.5	12 / 38	0.0052	0.69	0.063	3	0.063	--	--	0.046	0.38	--	**Yes**	No	--	No
TCDD TEQ (a)	0 to 6.5	13 / 13	0.00332 (pg/g)	17.8 (pg/g)	11 (pg/g)	1	11 (pg/g)	3.5 (f) 7 to 20 (pg/g)	3.5 (f) 7 to 20 (pg/g)	3.5 (f) 7 to 20 (pg/g)	--	--	No	--	--	--
Ecological PCOCs (Assuming Buffer Zone Cleanup Levels)																
Barium	0 to 3.5	33 / 33	79	920	538	5	538	180	230	--	--	500	--	--	**Yes**	--
Copper	0 to 3.5	33 / 33	13	440	145	2	145	49	85	--	--	120	--	--	**Yes**	--
Lead	0 to 3.5	34 / 34	8.4	2,400	948	2	948	7.5	66	--	--	300	--	--	**Yes**	--
Zinc	0 to 3.5	33 / 33	42	1,100	527	2	527	79	160	--	--	50	--	--	**Yes**	--

TABLE 6B
SCREENING RISK EVALUATION FOR CHEMICALS OUTSIDE THE DEBRIS FILL EXTENTS
Lendrum Court Area
Presidio of San Francisco, California

Potential Chemicals of Concern	Sample Depth Range	Summary of Soil Analytical Data			95% Upper Confidence Limit / Exposure Point Concentration (UCL) (b)		EPA EPC in Soil	Applicable Presidio-Wide Soil Screening Levels (d)					Does EPC Exceed Residential Screening Level and Background Level?	Does EPC Exceed Industrial Worker Screening Level and Background Level?	Does EPC Exceed Ecological Screening Level and Background Level?	Does PAH EPC Exceed Northern California Background Level?
		Number of Samples Detected / Number of Samples Analyzed	Minimum Detected Concentration	Maximum Detected Concentration				Colma Background Levels (e)	Serpentinite Background Levels (e)	Residential Screening Level	Industrial Worker Screening Level	Ecological Screening Level				
	(ft bgs)		mg/kg (a)	mg/kg (a)	mg/kg (a)	Statistic (c)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)	mg/kg (a)				
Human Health PCOCs																
Arsenic	0 to 2.5	7 / 7	2.5	3.9	3.7	1	3.7	6.2	5.4	0.36	3.3	--	No	No	--	--
	0 to 6.5	8 / 8	2.5	3.9	3.6	1	3.6	6.2	5.4	0.36	3.3	--	No	No	--	--
Lead	0 to 2.5	43 / 43	7	490	170	5 (g)	170	7.5	66	80	320	--	**Yes**	No	--	--
	0 to 6.5	44 / 44	6.2	490	167	5 (g)	167	7.5	66	80	320	--	**Yes**	No	--	--
Benzo(a)pyrene	0 to 2.5	5 / 7	0.0054	0.014	0.011	6	0.011	--	--	0.046	0.38	--	No	No	--	No
	0 to 6.5	5 / 8	0.0054	0.014	0.01	6	0.01	--	--	0.046	0.38	--	No	No	--	No
B(a)P Equivalents	0 to 2.5	6 / 7	0.0098	0.027	0.020	1	0.020	--	--	0.046	0.38	--	No	No	--	No
	0 to 6.5	6 / 8	0.0098	0.027	0.020	1	0.020	--	--	0.046	0.38	--	No	No	--	No
Dibenz(a,h)anthracene	0 to 2.5	0 / 7	--	--	--	--	--	--	--	0.046	0.38	--	No	No	--	No
	0 to 6.5	0 / 8	--	--	--	--	--	--	--	0.046	0.38	--	No	No	--	No
TCDD TEQ (a)	0 to 6.5	0 / 0	--	--	--	--	--	3.5 (f) 7 to 20 (pg/g)	3.5 (f) 7 to 20 (pg/g)	3.5 (f) 7 to 20 (pg/g)	--	--	No Data	--	--	--
Ecological PCOCs (Assuming Special Status Cleanup Levels)																
Barium	0 to 3.5	8 / 8	89	120	106	1	106	180	230	--	--	320	--	--	No	--
Copper	0 to 3.5	8 / 8	12	30	21	1	21	49	85	--	--	30	--	--	No	--
Lead	0 to 3.5	44 / 44	6.2	490	167	5 (g)	167	7.5	66	--	--	160	--	--	**Yes**	--
Zinc	0 to 3.5	8 / 8	40	97	75	1	75	79	160	--	--	4	--	--	No	--

TABLE 6A AND 6B NOTES
SCREENING RISK EVALUATION FOR CHEMICALS INSIDE AND OUTSIDE THE DEBRIS FILL EXTENTS
Lendrum Court Area
Presidio of San Francisco, California

Abbreviations:
-- - Not applicable
B(a)P - Benzo(a)pyrene
EPA - United States Environmental Protection Agency
EPC - exposure point concentration
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram
PCOC - Potential Chemicals of Concern
pg/g - picograms per gram
TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ - toxic equivalent quotient
UCL - upper confidence limit

Notes:
(a) Units are in mg/kg, with the exception of TCDD TEQ. For TCDD TEQ, units are in pg/g.
(b) The 95% UCL was calculated using EPA's ProUCL software, version 5.0.00 (EPA, 2013b). EPCs are the lesser of the maximum detected concentration and the 95% UCL.
(c) UCLs and EPCs are based on the following statistics:

1 - Student's-t UCL	4 - 95% Adjusted Gamma KM - UCL
2 - 95% Adjusted Gamma UCL	5 - 95% Chebyshev (Mean, Sd) UCL
3 - 95% KM (BCA) UCL	6 - 95% KM(t) UCL

(d) Residential Soil Screening Levels are Residential Human Health Preliminary Remediation Goals ("PRGs") from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013). For lead, the DTSC's residential and industrial risk screening levels of 80 and 320 mg/kg, respectively, are applied (DTSC, 2011). Residential PRGs for dioxin TCDD TEQ are from Technical Memorandum, Human Health Soil Preliminary Goals and Toxic Equivalency Values for Dioxins and Furans, Presidio of San Francisco, California (MACTEC, 2007) (see Table 5). Ecological Buffer Zone Soil Screening Levels are PRGs from Table 7-2 of the Cleanup Level Document (EKI, 2002; with updates through 2013).
(e) Site lithology is a mixture of Colma Formation and serpentine. Chemical concentrations are compared to the higher of the two background values.
(f) Residential screening level of 3.5 pg/g from Technical Memorandum, Human Health Soil Preliminary Goals and Toxic Equivalency Values for Dioxins and Furans, Presidio of San Francisco, California (MACTEC, 2007). The TCDD TEQ Background Range of 7 to 20 pg/g from DTSC 2010 is discussed in the report text.
(g) ProUCL suggested use of a 95% H-UCL; however, the text immediately below the suggested value states in bold that "It is … recommended to avoid the use of the H-statistic based on 95% UCLs." Therefore, for these cases the 95% Chebyshev (Mean, Sd) UCL was used. The UCLs used are highlighted in the output files provided in Appendix F.

APPENDIX C

LEADSPREAD 8 MODEL OUTPUT

One Concord Center
2300 Clayton Road, Suite 610
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

April 6, 2015 TRC Project No. 229649

Ms. Nina Larssen
Remediation Project Manager
Presidio Trust
103 Montgomery Street
P.O. Box 29052
San Francisco, CA 94129-0052

Subject : Recreational Soil Cleanup Levels for Lead, Presidio of San Francisco, San Francisco, California

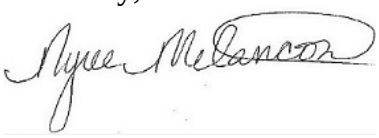
Dear Ms. Larssen,

In 2007, the California Office of Environmental Health Hazard Assessment (OEHHA) developed a 1 microgram per deciliter (µg/dL) benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses (OEHHA, 2009). The publication of this values required OEHHA to review the residential and commercial/industrial screening levels for lead. Based on the Department of Toxic Substances Control (DTSC) Leadspread 8 model and United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM), the new residential and commercial/industrial screening levels for lead are 80 milligrams per kilogram (mg/kg) and 320 mg/kg, respectively (OEHHA, 2009). The Presidio Trust adopted these lead soil screening levels as the lead soil cleanup levels for the Presidio of San Francisco. However, the recreational lead soil cleanup levels for the Presidio of San Francisco was not updated.

Recreational lead soil cleanup levels were developed using the DTSC's LeadSpread 8 model. Recreational assumptions were used to calculate a recreational lead soil screening level, which are consistent with assumptions used in Erler & Kalinowski, Inc. (EKI) October 2002 (with updates through 2013) *Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco* and default DTSC factors from LeadSpread 8. The only value that was altered in the model to reflect a recreational receptor is the days per week, which assumes 150 days per year for 50 weeks (EKI, 2002 with updates through 2013). The modeled recreational soil cleanup level for lead protective of a child recreational receptor is 180 mg/kg (Attachment 1).

If you have any questions regarding the recreational soil cleanup level for lead, please contact me at (925) 688-2469 or nmelancon@trcsolutions.com.

Sincerely,



Nyree A. Melancon
Senior Risk Assessor

Attachments:

Attachment 1 – Recreational Soil Cleanup Level for Lead

References:

Department of Toxic Substances Control (DTSC), 2011, LeadSpread Risk Assessment Spreadsheet, Version 8, 2011.

Erler & Kalinowski, Inc. (EKI), 2002. Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco. October (with updates through 2013).

Office of Environmental Health Hazard Assessment (OEHHA), 2009, Revised California Human Health Screening Levels for Lead, Integrated Risk Assessment Branch, California Environmental Protection Agency, September.

Attachments

Attachment 1. Recreational Soil Cleanup Level for Lead
Presidio of San Francisco
San Francisco, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	77.0
Respirable Dust (ug/m^3)	1.5

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.2	0.4	0.5	0.6	0.7	180

EXPOSURE PARAMETERS		
	units	children
Days per week [a]	days/wk	3
Geometric Standard Deviation [b]		1.6
Blood lead level of concern (ug/dl) [b]		1
Skin area, residential [b]	cm^2	2900
Soil adherence [b]	ug/cm^2	200
Dermal uptake constant [b]	(ug/dl)/(ug/day)	0.0001
Soil ingestion [b]	mg/day	100
Ingestion constant [b]	(ug/dl)/(ug/day)	0.16
Bioavailability [b]	unitless	0.44
Breathing rate [b]	m^3/day	6.8
Inhalation constant [b]	(ug/dl)/(ug/day)	0.192

PATHWAYS			
CHILDREN	Recreational		
	Pathway contribution		
Pathway	PEF	ug/dl	percent
Soil Contact	2.5E-5	0.00	1%
Soil Ingestion	3.0E-3	0.23	99%
Inhalation	8.4E-7	0.00	0%

Abbreviations:

µg/cm^2 = micrograms per centimeter squared
µg/day = micrograms per day
µg/dl = micrograms per deciliter of blood
µg/g = micrograms per gram
µg/m^3 = micrograms per cubic meter
cm^2 = centimeter squared
days/wk = days per week
m^3/day = cubic meters per day
mg/day = milligrams per day

Footnotes:

[a] Exposure frequency for recreational scenario is 3 days/wk or 150 days per year (EKI, 2002, with updates through 2013).
[b] DTSC default value used previously, as presented in Appendix A of the Presidio-Wide Cleanup Level Document (EKI, 2002, with updates through 2013).

References:

Erler & Kalinowski, Inc. (EKI), 2002. *Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco.* October (with updates through 2013).

APPENDIX D

REMEDIATION AND OPERATION AND MAINTENANCE COSTS

Table D-1
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 2 - Excavation				Expected Pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext**
1	Mobilization (a.)	LS	1	19,200.00	19,200.00
2	Demobilization	LS	1	4,800.00	4,800.00
3	Administrative Submittals (b.)	LS	1	39,000.00	39,000.00
4	Site Security	LS	1		0.00
5	HASP Implementation	LS	1	72,510.00	72,510.00
6	Install Dust Control Mat	LS	87,120	0.20	17,424.00
7	Traffic Control Implementation	LS	1	35,897.54	35,897.54
8	Dust Control	LS	1	20,000.00	20,000.00
9	Install Temporary Security Fence	LF	1,600	5.50	8,800.00
10	Install Silt Fence	LF	2,208	6.50	14,352.00
11	Clearing & Grubbing	ACRE	2	6,000.00	12,000.00
12	Asphalt Pavement Demolition	SF	24,000	1.77	42,480.00
13	Remove DG Walkways	SF		1.50	0.00
14	Remove DG Patios	SF		1.50	0.00
15	Building Abatement (c.)	SF	19,000	11.00	209,000.00
16	Building Demolition	SF	19,000	10.00	190,000.00
17	Patio Demolition	SF	225	25.00	5,625.00
18	Sidewalk Demolition - Concrete	SF	88	25.00	2,200.00
19	Prepare Soil Holding Pile/Cover	SF	105,300	0.37	38,434.50
20	Remedial Excavation and Stockpile	CY	22,500	7.50	168,750.00
21	Sample Excavated Materials	EA	108	232.00	25,056.00
22	Sample Excavation Bottoms	EA	261	232.00	60,635.52
23	Load Out Newly Stockpiled Contaminated Soil	CY	22,500	3.50	78,750.00
24	Transportation & Disposal of Off haul Materials:				
	a. Class II Disposal (d.)	TON	38,250	70.00	2,677,500.00
	b. Class I Disposal (Cal Haz)	TON		125.00	0.00
	c. Class I Disposal (RCRA)	TON		200.00	0.00
25	Excavate & Haul Trust-Furnished Import Fill (e.)	CY	5,000	57.00	285,000.00
26	Import Fill	CY	21,000	61.17	1,284,570.00
27	Sample Imported Materials for Contamination	EA	125	647.00	80,745.60
28	Sample Imported Materials for Geotech	EA	125	220.00	27,456.00
29	Place & Compact Import Fill	CY	22,500	6.00	135,000.00
30	Finish Grading	ACRE	2.0	6,534.00	13,068.00
31	Replace Removed Asphalt foot path	SF	900	2.50	2,250.00
32	Replace Removed Asphalt	SF	24,000	2.50	60,000.00
33	Replace Removed Curbing	SF	20.0	25.00	500.00
34	Install New Patios	SF	2,530	15.00	37,950.00
35	Install New Sidewalks	SF	450.0	25.00	11,250.00
36	Install DG Walkways	SF	2,000	2.00	4,000.00
37	Install Street/Parking Stripes	LS	1.0	5,000.00	5,000.00
38	Install Irrigation System	SF	56,000	1.20	67,200.00
39	Install Top of Slope Irrigation Line	LF	800	7.50	6,000.00

Table D-1
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 2 - Excavation				Expected Pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext**
40	Reseeding Grass/Turf	ACRE	2.0	7,000.00	14,000.00
41	Erosion Mat	SF	87,120	0.82	71,438.40
42	Controls:				
	a. Construction Site Management	LS	1	292,393.00	292,393.00
	b. Surveying	LS	1	20,954.00	20,954.00
	c. Engineering Oversight	LS	1	233,914.00	233,914.00
			Totals:		**6,395,103.56**
			Contingency on Totals	20%	1,279,021.00
			Profit on Totals	10%	639,511.00
				Expected Total (f.)	**8,313,635.56**

a. Includes excavator, dozer, water truck, compactor, loader, skid, utilities, toilets, utility clearance and air monitoring set up

b. SWPPP, HASP, Materials Plan, Traffic, Demo plan, landscape plan, demo plan and permits

c. Estimated based on age of building

d. Assumes 1.7 tons per cubic yard

e. Assumes 5,000 cubic yards of borrow from MacArthur Meadows

f. Does not include building replacement

Table D-2
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 3, Phase 1 Consolidation and Capping with LUCs and Post-Remediation Monitoring - Landscape Area				Expected pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext**
1	Mobilization (a.)	LS	1	19,200.00	19,200.00
2	Prepare Laydown Area	LS	1	1,800.00	1,800.00
3	Prepare area for Trailer, Geotextile+Gravel			0.00	0.00
4	Demobilization	LS	1	4,800.00	4,800.00
5	Administrative Submittals (b.)	LS	1	27,000.00	27,000.00
6	Site Security	LS	1		0.00
7	HASP Implementation	LS	1	5,000.00	5,000.00
8	SWPPP implementation	LS	6	250.00	1,500.00
9	Install Silt Fence/Remove when Project is Complete	LF	1,295	8.00	10,360.00
10	Traffic Control Implementation	LS	1	50,000.00	50,000.00
11	Dust Control	LS	1	38,900.00	38,900.00
12	Tape Windows of Residences	LS	1	2,800.00	2,800.00
13	Install Temporary Security Fence	LF	2,182	5.00	10,910.00
14	Clearing & Grubbing (Vegetation Removal)	ACRE	1.5	6,000.00	9,000.00
15	Tree Removal Area 1	EA	6	3,000.00	18,000.00
16	Access road Side of 1259 to behind 1259+1278	SF	1700	7.84	13,328.00
17	Asphalt Pavement Demolition/Curbing	SF	720	1.77	1,274.40
18	Patio and Sitewalk Demolition	SF	313	25.00	7,825.00
19	Prepare Soil Holding Pile/Cover	SF	12,204	0.37	4,515.48
20	Base Grade Excavation	CY	2,600	10.00	26,000.00
21	Excavation Top 4-6 inches DG surfacing and Stockpile for Disposal off Site	CY	1,130	10.00	11,300.00
22	Hotspot Removal	CY	40	13.00	520.00
23	Characterization for Disposal	EA	6	232.00	1,392.00
24	Load Out Newly Stockpiled Contaminated Soil	CY	1,130	3.50	3,955.00
25	Transportation & Disposal of Off haul Materials:				
	a. Class II Disposal (c.)	TON	1,921	70.00	134,470.00
	b. Class I Disposal (Cal Haz)	TON		125.00	0.00
	c. Class I Disposal (RCRA)	TON		200.00	0.00
26	Load and Haul Trust-Furnished Import Fill (d.)	CY	3,800	7.00	26,600.00
27	Import Fill	CY		61.17	0.00
28	Install Dust Control Mat	SF	65,340	0.20	13,068.00
29	Gopher Wire	SF	65,340	0.93	60,766.20
30	Place & Compact Fill	CY	3,800	6.00	22,800.00
31	Finish Grading	ACRE	1.5	6,098.40	9,147.60
32	Install Temporary Drainage System	LS	1	4,100.42	4,100.42
33	Install Asphalt foot path	SF	900	2.50	2,250.00
34	Install Asphalt Road	SF	88	6.50	572.00
35	Install Curbing	LF	20	25.00	500.00
36	Install New Patios	SF	2,530	15.00	37,950.00
37	Install New Sidewalks	SF	450.0	15.00	6,750.00

Table D-2
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 3, Phase 1 Consolidation and Capping with LUCs and Post-Remediation Monitoring - Landscape Area				Expected pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext**
38	Install DG Walkways	SF	2,000	2.00	4,000.00
39	Install Striping	LS	1.0	2,000.00	2,000.00
40	Install Irrigation System	SF	56,000	1.20	67,200.00
41	Landscape Planting	ACRE	1.5	40,000.00	60,000.00
42	Cap Within Tree Protection Zones	EA	5	174.45	872.25
43	Final Erosion Controls	SF	65,340	0.82	53,578.80
44	Straw Wattle	LF	648	7.74	5,011.65
45	Install Key Trench (e.)	LS	1		0.00
46	Construction Site Management - Contractor	LS	1	96,653.00	96,653.00
47	Surveying	LS	1	9,520.00	9,520.00
48	Controls:				
	a. Air Monitoring	LS	1	72,510.00	72,510.00
	b. Sample Excavation Bottoms	EA	5	232.00	1,160.00
	c. Sample Imported Materials for Contamination	EA	18	647.00	11,801.28
	d. Sample Imported Materials for Geotech	EA	18	220.00	4,012.80
	e. Compaction Testing	Days	20	700.00	14,000.00
	f. Engineering Oversight	LS	1	62,482.00	62,482.00
			Totals:		**1,053,155.88**
			Contingency on Totals	20%	210,632.00
			Profit on Totals	10%	105,316.00
				Expected Total	**1,369,103.88**

a. Includes excavator, dozer, water truck, compactor, loader, office, utilities, toilets, utility clearance and air monitoring set up

b. SWPPP, HASP, Materials plan, Traffic, Demo plan, Excavation plan, Dust plan and permits

c. Assumes 1.7 tons per cubic yard

d. Assumes 3,800 cubic yards of Fill Material from MacArthur Meadows

e. Include this work in Base Grade excavation

Table D-3
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 3, Phase 2 Consolidation and Capping with LUCs and Post-Remediation Monitoring - Historic Forest				Expected pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext**
1	Mobilization (a.)	LS	1	19,200.00	19,200.00
2	Demobilization	LS	1	4,800.00	4,800.00
3	Administrative Submittals (b.)	LS	1	14,000.00	14,000.00
4	Site Security	LS	1		0.00
5	HASP Implementation	LS	1	72,510.00	72,510.00
6	Install Dust Control Mat	LS	21,780	0.20	4,356.00
7	Traffic Control Implementation	LS	1	7,317.59	7,317.59
8	Dust Control	LS	1	10,000.00	10,000.00
9	Install Temporary Security Fence	LF	1,235	5.00	6,175.00
10	Tape Windows of Residences	LS	1	1,600.00	1,600.00
11	Install Silt Fence	LF	913	6.50	5,934.50
12	Clearing & Grubbing	ACRE	0.5	6,000.00	3,000.00
13	Prepare Soil Holding Pile/Cover	SF	4,320	0.37	1,576.80
14	Remedial Excavation and Consolidate	CY	900	10.00	9,000.00
15	Remedial Excavation and Stockpile for Disposal off Site	CY	400	10.00	4,000.00
16	Sample Excavated Materials	EA	2	232.00	445.44
17	Sample Excavation Bottoms	EA	10	232.00	2,320.00
18	Load Out Newly Stockpiled Contaminated Soil	CY	400	3.50	1,400.00
19	Transportation & Disposal of Off haul Materials:				
	a. Class II Disposal (c.)	TON	680	70.00	47,600.00
	b. Class I Disposal (Cal Haz)	TON		125.00	0.00
	c. Class I Disposal (RCRA)	TON		200.00	0.00
20	Excavate & Haul Trust-Furnished Import Fill (d.)	CY	1,200	57.00	68,400.00
21	Import Fill	CY	300	61.17	18,351.00
22	Sample Imported Materials for Contamination	EA	7	647.00	4,658.40
23	Sample Imported Materials for Geotech	EA	7	220.00	1,584.00
24	Place & Compact Fill	CY	1,500	6.00	9,000.00
25	Finish Grading	ACRE	0.5	6,098.40	3,049.20
26	Install Top of Slope Irrigation Line	LF	800	7.50	6,000.00
27	Landscaping Planting	ACRE	0.5	9,000.00	4,500.00
28	Gopher Wire	SF	21,780	0.74	16,117.20
29	Erosion Mat	SF	21,780	0.82	17,859.60
30	Controls:				
	a. Construction Site Management	LS	1	40,353.00	40,353.00
	b. Surveying	LS	1	3,519.00	3,519.00
	c. Engineering Oversight	LS	1	29,181.00	29,181.00
			Totals:		**437,807.73**
			Contingency on Totals	20%	87,562.00
			Profit on Totals	10%	43,781.00
				Expected Total	**569,150.73**

a. Includes excavator, dozer, water truck, compactor, loader, office, utilities, toilets, utility clearance and air monitoring set up

b. SWPPP, HASP, Materials Plan, Traffic, Demo plan, landscape plan and permits

c. Assumes 1.7 tons per cubic yard

d. Assumes only 1,200 cubic yards of 5,000 cubic yards of borrow from MacArthur Meadows remaining

Table D-4
Removal Action Alternatives
Lendrum Court
Presidio of San Francisco, California

Alternative 3, Long Term Monitoring and Maintenance				Expected pricing	
Bid Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Price Ext.**
1	Erosion, Revegetation and As Needed Cover Repairs (a.)	Acre	0.2	46,166.00	9,233.20
2	Construction Site Management - Contractor	LS	1	4,980.00	4,980.00
3	Surveying	LS	1	700.00	700.00
4	Controls:				
	a. Quarterly Inspection (b.)	Each	4	980.00	3,920.00
	b. Quarterly Inspection Report (b.)	Each	4	900.00	3,600.00
	c. Annual Report	LS	1	1,250.00	1,250.00
	d. 5 Year Report (c.)	LS	0	5,050.00	0.00
	e. Engineering Oversight	LS	1	3,675.00	3,675.00
			Totals:		**27,358.20**
				Expected Annual Year 1 Total	27,358.20
				30 Years Cost (d.) (e.)	**492,710.00**

a. Allocation per year

b. Four occurrences per year initially

c. Shown for clarification, not included in year 1, but included every 5th year

d. Assumes 30 years average inflation of 2.5%

e. Assumes quarterly inspections/repairs/reports year 1 and 2, Semi Annual years 3 and 4, and then annually thereafter

APPENDIX E

ADMINISTRATIVE RECORD LIST

Table E-1. Administrative Record List

Date	Author	Recipient	Title of Document
October 1988	United States Environmental Protection Agency (EPA)	Public	Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. EPA/540/G-89/004, OSWER Directive 9355.3-01. October.
1990	EPA Environmental Photographic Interpretation Center, Environmental Monitoring Systems; by Ringden and Sitton	Public	*Installation Assessment Army Base Closure Program, Presidio Military Reservation, San Francisco, CA.*
March 1993	National Park Service (NPS)	Public	*National Register of Historic Places Registration Form for the Presidio of San Francisco.*
1993	NPS	Public	*National Historic Landmark District Update. The Presidio of San Francisco, San Francisco*
July 1994	National Park Service (NPS)	Public	*Creating a Park for the 21st Century, from Military Post to National Park – Final General Management Plan Amendment, Presidio of San Francisco, Golden Gate National Park Recreation Area, California.* Department of Interior.
November 1995	Earth Tech	Public	*Base Realignment and Closure (BRAC) Cleanup Plan, Presidio of San Francisco, San Francisco, California.*
December 1995	Department of Toxic Substances Control (DTSC)	Public	*Remedial Action Plan Policy, Guidance Document No. EO095-007-PP.*
1995	Public City and County of San Francisco Planning Department (SF Planning)	Public	*Transportation: An Element of the General Plan of the City and County of San Francisco*.
January 1997	Dames & Moore	Army	*Final Remedial Investigation Report, Presidio Main Installation, Presidio of San Francisco*.
May 1999	U.S. Army, Presidio Trust, and National Park Service (U.S. Army, Trust, and NPS)	Public	Public *Memorandum of Agreement, Environmental Remediation at the Presidio of San Francisco*. May.
May 1999	Presidio Trust and National Parks Service (Trust and NPS)	Public	Public *Memorandum of Agreement for Environmental Remediation of Presidio of San Francisco "Area A" Property*.
August 1999	DTSC	Public	*Consent Agreement Between the California Department of Toxic Substances Control, the Presidio Trust, and the U.S. Department of the Interior, National Park Service for the Remediation of Hazardous Substances at the Presidio of San Francisco*.
May 2001	Trust and NPS	Public	*Vegetation Management Plan and Environmental Assessment for the Presidio of San Francisco*.
June 2001	Trust	Public	*Community Relations Plan.*
July 2001	California Air Resources Board (CARB)	Public	*Resolution 01-28*.
October 2001	Jones and Stokes	Parsons Brinckerhoff	*Archaeological Survey Report/Historical Study Report, Doyle Drive Corridor Project, Presidio of San Francisco National Historic Landmark District, City and County of San Francisco, California.*

Table E-1. Administrative Record List

Date	Author	Recipient	Title of Document
October 2001	DTSC	Public	*Information Advisory, Clean Imported Fill Material*
November 2001	Trust and Golden Gate National Recreation Area (GGNRA)	Public	*Presidio of San Francisco Biological Assessment, Draft Presidio Environmental Remediation Program, Draft Presidio Trails and Bikeways Master Plan, Draft Presidio Trust Implementation Plan.*
May 2002	Presidio Trust	Public	*Presidio Trust Management Plan (PTMP), Final Environmental Impact Statement*
July 2002	U.S. Department of the Interior Fish and Wildlife Service (USFWS)	Trust	*Formal Consultation on Four Projects at the Presidio of San Francisco and Golden Gate National Recreation Area, San Francisco, California.* File No. 1-1-02-F-0228. July 23.
October 2002; revised 2006	Erler & Kalinowski, Inc. (EKI)	Trust	*Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water, Presidio of San Francisco*. October. Revised May 16, 2006.
2003	Regional Water Quality Control Board (RWQCB)	Public	*Order No. R2-2003-0080. Revised Site Cleanup Requirements and Rescission of Order No. 91-082 and Order no. 96-070 for the Property Located at the Presidio of San Francisco, City and County of San Francisco.*
March 2003	EKI	Trust	*Presidio Trust Revised Feasibility Study Report, Main Installation Sites, Presidio of San Francisco, California.*
April 2003	NPS and URS Corporation	Public	*Presidio Wetland Resources, U.S. Army Corps of Engineers Potential Jurisdictional Wetlands and U.S. Fish and Wildlife Service Wetland Habitat on the Presidio of San Francisco.*
July 2003	NPS and Trust	Public	*Presidio Trails and Bikeways Master Plan and Environmental Assessment.*
January 2005	Trust	U.S. Army Corps of Engineers.	*Wetland Summary Letter to the U.S. Army Corps of Engineers*. Letter from Mr. Craig Cooper, Trust, to Mr. Bob Smith, USACE.
April 2005	May & Associates	Trust	*Amendment to the Presidio of San Francisco Biological Assessment (dated November 16, 2001), Presidio of San Francisco, Golden Gate National Recreation Area, San Francisco, California*.
July 2005	Trust and NPS	United States Fish and Wildlife Service (USFWS)	*Request to re-open formal consultation under the Endangered Species Act (ESA Section 7) for three environmental remediation sites and a portion of trail at the Presidio of San Francisco (Reference: Biological Opinion dated July 23, 2002, File No. 1-1-02-F-0228* . Letter from Ms. Terri Thomas, Trust and Ms. Daphne Hatch, NPS to Mr. Ryan Olah, USFWS. July 29.
August 2005	USFS	Trust	*Amendment to the Biological Opinion for the Modification of Three Environmental Remediation Sites, and the Presidio Trails and Bikeways Management Plan, The Presidio, San Francisco, California (USFWS file 1-1-02-F-0228)* . August 31.
October 2005	Anthropological Studies Center, Sonoma State University	Trust	*Protocols for Archaeological Artifacts on Presidio Park Lands.*
March 2006	Climate Action Team (CAT)	Public	*Climate Action Team and California Environmental Protection Agency. Climate Action Team Report to Governor Schwarzenegger and the Legislature.*
March 2006	U.S. Army (Corps of Engineers, Sacramento District)	Public	*Chemical Warfare Investigation Work Plan.*

Table E-1. Administrative Record List

Date	Author	Recipient	Title of Document
May 2007	Intergovernmental Panel on Climate Change (IPCC)	Public	*Climate Change 2007: Synthesis Report, the Fourth IPCC Assessment Report.*
November 2007	CARB	Public	*California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit.*
September 2008	FHWA (Federal Highway Administration) and San Francisco County Transportation Authority (SFCTA)	Public	*Final Environmental Impact Statement/Report and Section r(f) Evaluation, South Access to the Golden Gate Bridge: Doyle Drive.*
December 2008	CARB	Public	*Climate Change Scoping Plan, Framework for Change, as Approved December 2008, Pursuant to AB32.*
February 2009	Presidio Trust	Public	*Supplement to a Draft Supplemental Environmental Impact Statement, Presidio Trust Management Plan, Main Post Update*
March 2009	CAT	Public	*Draft Biennial Report.*
September 2009	Presidio Trust	Public	*Presidio Trust Land Use Controls Master Reference Report, Presidio of San Francisco, California.*
December 2009	DTSC	Public	*Interim Advisory for Green Remediation.*
May 2010	Bay Area Air Quality Management District (BAAQMD)	Public	*Proposed Air Quality CEQA Thresholds of Significance.*
September 2011	AMEC Environment & Infrastructure (AMEC)	Trust	*Technical Memorandum, Updated Human Health Preliminary Remediation Goals for Carcinogenic Polynuclear Aromatic Hydrocarbons in Soil, Presidio of San Francisco, California.*
December 2011	Native American Heritage Commission (NAHC)	DTSC	*Proposed Mountain Lake Project. (Applicable to all of Presidio)*.
May 2012	BAAQMD	Public	*California Environmental Quality Act, Air Quality Guidelines.*
December 2012	DTSC	Trust	*Presidio Operation and Maintenance Agreement*
May 2013	EKI/Presidio Trust	DTSC	*Lendrum Court, Preliminary Endangerment Assessment Workplan, Presidio of California.*
February 2014	EKI/Presidio Trust	DTSC	*Lendrum Court Investigation Summary Report and Screening Risk Evaluation, Presidio of San Francisco.*
April 2014	EKI/ Presidio Trust	DTSC	*Sampling Workplan for the North Fort Scott Neighborhood, Presidio of San Francisco.*
May 2014	DTSC	Trust	*Acknowledgement of Satisfaction and Reservation of Rights Consent Agreement for the Presidio of San Francisco*
July 2014	EKI/ Presidio Trust	DTSC	*North Fort Scott Investigation Summary Report, Presidio of San Francisco.*

Table E-1. Administrative Record List

Date	Author	Recipient	Title of Document
August 2014	EKI/Presidio Trust	DTSC	*Additional Sampling Workplan for Lendrum Court, Presidio of San Francisco.*
March 2015	EKI/Presidio Trust	DTSC	*Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation, Presidio of San Francisco.*
March 2015	Terraphase	Caltrans	*Memorandum – Hook Ramp Drainage Swale Sample Results, Doyle Drive Project, San Francisco, California.*
March 2015	TRC	Caltrans	*Transmittal of Soil Stockpile SP-202 and SP-203 Waste Profile Results, Doyle Drive Hook Ramp Area, Presidio of San Francisco, California*
May 2015	Terraphase	Caltrans	*Memorandum - Hook Ramp Drainage Swale, Demolished Incinerator Area Cap, Doyle Drive Project, San Francisco, California.*

APPENDIX F

PROJECT CONTROLS TO MINIMIZE POTENTIAL IMPACTS TO HUMAN HEALTH AND RESOURCES

Table F-1
Project Controls to Minimize Potential Impacts to Human Health and Resources
Lendrum Court

Resources[a]	Potential Impacts to Resource from Proposed Remedial Actions[a]	Project Controls to Minimize Potential Impacts to Human Health and Resources[b]
Aesthetics	Removal of vegetation and construction activities will temporarily degrade the existing visual character and quality of the site and surroundings.	Post-remediation site restoration activities will be implemented and are expected to improve the visual character and quality of the site and its surroundings. In the long term, the site areas will be enhanced by restoration of neighborhood landscape and the adjacent Historic Forest.
Air Quality	During the remedial action, dust and diesel exhaust may be emitted from open excavations, construction equipment, from vehicles transporting cover soil, during grading, and during placement and loading of soil stockpiles.	Best management practices (BMPs), including tarping of stockpiled soils, covering of transported materials, watering exposed areas, and maintaining and operating minimal construction equipment, as appropriate, will be used to reduce airborne emissions. Vehicles and engines will be operated in compliance with Applicable or Relevant and Appropriate Requirements (ARARs). Air quality monitoring will be performed at the work area perimeter and worker breathing zones, and pollutant or dust-generating activities will be halted if pollutant concentrations exceed action levels. In addition, truck loads and traffic will be scheduled and coordinated, to the extent possible, to minimize the vehicle loads per day and the times at which they occur. Localized soil covers and/or temporary misting systems will be constructed around the perimeter of work areas to reduce dust impacts to the community. In addition, windows of residences facing any work area will be taped.
Biological Resources	Existing vegetation at the site will be cleared and removed, specifically shrubs and grasses. Trees in the historic forest will not be removed.	Following the remedial action, culturally appropriate landscape vegetation will be established in landscaped areas and understory plants and trees will be established in the Historic Forest. Removal of vegetation will be coordinated with Presidio natural resource staff to avoid potential disruption to nesting or migrating birds. Every effort will be made to schedule vegetation removal outside the bird nesting season (January 1st-August 15th for raptors and hummingbirds; March 1 – August 15 for songbirds). However, vegetation removal may occur during the bird nesting season provided a nesting survey indicates no disruption to nesting birds (including ground nesting birds) and approval is obtained from Presidio natural resources staff.
Cultural Resources	The remedial actions will involve grading and transportation of materials.	The area consists of a series of terraces graded during construction of Lendrum Court buildings. It is unlikely that cultural resources will be encountered during the remedial action. Protocols are in place at the Presidio to address the treatment of any unanticipated discoveries. These protocols include stopping work and notifying the Presidio archaeologist of any discoveries. Ongoing site monitoring will not be required.
Geology and Soils	Once existing vegetation is cleared, soil and fill materials may be susceptible to erosion, down slope movements, and/or landslides as a result of natural processes.	Stabilization practices such as wattles, silt fences, swales, and berms will be employed, as necessary. Earthmoving activities will be conducted in a manner to minimize landslides and maintain stable slopes. In the long term, the exposed slopes will be stabilized by the restoration of native and landscaped habitat. Erosion control measures will be implemented during any activity with the potential to allow sediments to leave the site, and to minimize runoff from the Site. Efforts will be made so that excavation and grading work is not conducted during wet weather and soil disturbance will be limited to work areas. Grading plans will be developed to protect natural resources.
Greenhouse Gas (GHG) Emissions	The remedial actions will generate GHG emissions through the use of vehicles and equipment.	The period of construction will be short-term, and construction-phase GHG emissions will occur directly from the off-road heavy-duty equipment and the on-road motor vehicles needed to mobilize crew, equipment, and materials, and to grade and restore the site.
Hazards and Hazardous Materials	The remedial action will involve excavating, consolidating, handling, transporting, and disposing of incinerator debris/ash and contaminated soil.	Access to the Site will be restricted to prevent potential public exposure during vegetation removal and earthwork activities. Further potential exposure of workers and public to contaminated materials during grading, excavation, and transport activities will be controlled through air quality control measures and engineering and dust control measures. These measures will include daily cover of exposed debris or ash, cover of stockpiled fill and excavated soil, air monitoring, and water spraying to control airborne dust from exposed soils. The stockpile, staging, and excavation areas

Table F-1
Project Controls to Minimize Potential Impacts to Human Health and Resources
Lendrum Court

Resources[a]	Potential Impacts to Resource from Proposed Remedial Actions[a]	Project Controls to Minimize Potential Impacts to Human Health and Resources[b]
		will be enclosed by temporary construction fencing. Workers implementing remedial activities will be appropriately trained and will use personal protective equipment to minimize exposure to contaminants. Hazardous wastes generated during remedial construction will be properly stored, handled, transported, and disposed in accordance with state and federal laws and regulations. Transport of hazardous materials will occur along authorized haul routes within the Presidio, and along major thoroughfares outside the Presidio. A Site-Specific Health and Safety Plan (SSHSP) will be prepared according to the applicable requirements of 29 CFR 1910.120 (Federal workers and contractors), and CCR Title 8 General Industrial Safety Order (GISO) 5192 (contractors), for work at hazardous waste sites. The SSHSP will describe the controls and procedures to be implemented to minimize incidents, injury, and health risks associated with remedial activities conducted at the Site. The SSHSP will contain, at a minimum, the following elements: a hazard evaluation; names of key personnel and the site safety coordinator; a statement that personnel have completed required training; medical surveillance requirements and personal protective equipment to be used by site personnel; the types and frequency of personal and area air monitoring; instrumentation and sampling techniques for monitoring of health and safety; site control measures, including the designation of work zones and safe work procedures; management of wastes and decontamination procedures for personnel and equipment; noise and dust control procedures and action levels; site transportation procedures; contingency plans including telephone numbers and contact names; and locations of and routes to the nearest emergency and non-emergency medical care facilities.
Hydrology and Water Quality	The remedial action will include earthwork and topographic changes from grading operations and may temporarily alter drainage patterns and potentially increase runoff and erosion.	Because remedial work will be conducted over approximately 2.4 acres, the project will include implementation of BMPs for construction site planning and management, erosion and sediment control, and pollution prevention, which will be contained in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include project-specific measures to reduce surface runoff and erosion. Wastewater from site decontamination and stockpile drainage will be discharged to the sanitary sewer under the Trust's existing City and County of San Francisco Sanitary Sewer Discharge Order.
Noise	Excavation, grading, and onsite and offsite transport of imported clean fill will increase noise levels. Noise generated by remedial activities will be temporary, intermittent, and dispersed.	Notifications of noise-generating work will be distributed to the public and nearby tenants, as necessary. Control measures may include, but not be limited to, proper tuning of equipment, placement of noisy equipment away from sensitive receptors as practicable, noise-control mufflers, and scheduling noisier operations during periods of low resident and visitor use, to the extent feasible. Within the Presidio, transport of equipment, soils, and fill materials to and from the Site will occur along authorized haul routes. Outside of the Presidio, haul routes will generally follow major thoroughfares and signed truck routes.
Recreation	The remedial action will temporarily affect tenant recreational options including the use of patios and common areas.	During the period of construction, the Site will be fenced to restrict and redirect public access around work zones. The remedial design will include pedestrian and traffic detours designed to keep visitors out of active work areas while permitting use of other park features.
Traffic and Transport-ation	The remedial action will temporarily increase traffic and restrict public access in the vicinity of the remedial construction area.	Traffic will be managed with construction signage and flagmen. Truck loads will be restricted to authorized haul routes through the Presidio. Outside of the Presidio, haul routes will follow major thoroughfares and signed routes approved for truck traffic. Because work areas will be temporarily closed during construction, pedestrian traffic will be temporarily detoured.

(a) Potential impacts to resources from the proposed remedial actions are evaluated in detail in the California Environmental Quality Act (CEQA) Initial Study.
(b) The project controls presented in this table will be implemented as part of the remedial actions to reduce the potential impacts to resources to less than significant levels.

APPENDIX G

CEQA DOCUMENTATION

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed the following document for this project in accordance with the California Environmental Quality Act (CEQA) [Pub. Resources Code, div. 13, § 21000 et seq.] and accompanying Guidelines [Cal. Code Regs., tit. 14, § 15000 et seq.].

PROJECT TITLE: Lendrum Court Removal Action Work Plan, Presidio of San Francisco		CALSTARS CODING: 12018-201999-11
PROJECT ADDRESS: Presidio of San Francisco	CITY: San Francisco	COUNTY: San Francisco
PROJECT SPONSOR: The Presidio Trust	CONTACT: Nina Larssen	PHONE: (415) 561-5421

APPROVAL ACTION UNDER CONSIDERATION BY DTSC:

☐ Initial Permit Issuance ☐ Permit Renewal ☐ Permit Modification ☐ Closure Plan
☐ Removal Action Workplan ☒ Removal Action Work Plan ☐ Interim Removal ☐ Regulations
☐ Other (specify):

STATUTORY AUTHORITY:

☐ California H&SC, Chap. 6.5 ☒ California H&SC, Chap. 6.8 ☐ Other (specify):

DTSC PROGRAM/ ADDRESS:	CONTACT:	PHONE:
Brownfields and Environmental Restoration Program 700 Heinz Avenue Berkeley, California 94710-2721	George Chow	510-540-3879

PROJECT DESCRIPTION:

The project is the approval of a Removal Action Work Plan (RAWP) for the Lendrum Court project ("the Project") by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code, Chapter 6.8 as submitted on May 29, 2015, by TRC Solutions, Inc. on behalf of The Presidio Trust. The RAWP was prepared in accordance with Health & Safety Code sections 25323.1 and 25356.1 (h). The RAWP for the Project is incorporated by reference:

- Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, San Francisco, California (Draft RAWP) (TRC Solutions, Inc., 2015).

The proposed Project remediation activities would occur in summer 2015 and spring and summer 2016, and would consist of excavation, consolidation, capping, characterization, transportation, and off-site disposal of excavated material. At Lendrum Court, the action would consolidate, remove, and cap incinerator debris and ash, and soil contaminated by chemicals of concern (COCs). Post-remediation site restoration would occur immediately after remedial construction in 2015 and 2016.

Location: The Presidio occupies 1,491 acres at the north end of the San Francisco peninsula. Figure 1 indicates the location of the Project site within the Presidio; Figure 2 shows the site in the context of its immediate surroundings. (Figures referenced in the text are in Attachment A to this Initial Study.)

Background: For 146 years, from 1848 through 1994, the Presidio was a U.S. Army (Army) installation. On October 1, 1994, the Presidio was transferred to the National Park Service (NPS) and became part of the Golden Gate National Recreation Area. In 1998, The Presidio Trust (Trust), a single-purpose federal agency, was granted jurisdiction over 1,168 acres of the Presidio. This area (known as Area B) is managed by the Trust in accordance with the Presidio Trust Management Plan (PTMP) (Trust, 2002a). The NPS has jurisdiction over approximately 320 acres, the balance of the Presidio property is known as Area A and is along the Presidio's shore front (see Figure 1).

Lendrum Court is located in Area B under the land management authority of the Trust. Under a 1999 agreement between the Trust, Army, and NPS, the Army retains responsibility for remediation of Army-era contamination

that was not known in 1999. The Lendrum Court site is considered an "unknown contamination site". In 2013, the Trust determined that it would take on the lead role for the cleanup of the site and entered into a voluntary clean-up agreement with the DTSC.

This Initial Study presents an overview of the activities proposed in the RAWP for the Lendrum Court site or "the site". This is followed by an analysis of the potential impacts to the adjoining residences as a consequence of the proposed Project. Cumulative impacts are evaluated assuming a worst-case scenario, where the Project and other planned projects would be implemented concurrently.

Site Setting and Future Uses

The Lendrum Court Project area is located in the northwest corner of the Presidio, bordered by Lendrum Court and Armistead Road to the south, the historic forest (eucalyptus and Cyprus) and Lincoln Boulevard to the east and north, and within the North Fort Scott Area (see Figure 1). In total, the Project area comprises approximately 4.5 acres. The North Fort Scott Area includes 17 residential buildings containing 42 units, housing approximately 110 residential tenants. Land uses at the site will remain residential with adjacent areas of historic forest and open landscapes.

Army-era debris and incinerator ash are present in subsurface soils in the area of Buildings 1257, 1258, 1259, 1278, 1279, 1280, and 1282, all of which surround Lendrum Court. The area generally slopes to the northeast in a series of terraces, likely graded as building pads for the residential units and parking lot area. The sloping areas between the terraces are generally landscaped with grass and shrubs. The northeastern slope behind buildings 1259, 1278, and 1279 is historic forest, consisting of cypress and eucalyptus trees with a thick understory of small-stature trees and shrubs.

Several phases of site investigation were conducted at Lendrum Court in response to tenant complaints of glass fragments in soil surrounding the residential buildings. These investigations identified a layer containing debris beneath much of the Lendrum Court area. The layer, where present, is first encountered at depths of approximately 0.5 to 2.5 feet beneath overburden soil in the central part of Lendrum Court and is exposed at the ground surface in the area of the historic forest east of Building 1278. The debris thickness varies from approximately 3 inches to 5 feet and extends into the forest area north and east of Lendrum Court. The lateral and vertical extent varies with topography. The debris layer contains glass and ceramic fragments, and in places, ash. The debris layer and ash are associated with the residuals from a former incinerator located south of Lendrum Court, within the present-day Doyle Drive right-of-way, as shown on a 1921 Presidio map. The incinerator was exposed in early 2015 during grading associated with the Doyle Drive Replacement Project, sponsored by the California Department of Transportation.

As part of remedial investigations conducted at the Site, 81 soil samples were collected and analyzed for one or more of the following parameters: Title 22 metals, polynuclear aromatic hydrocarbons (PAHs), dioxins and furans, and total petroleum hydrocarbons. In the Remedial Investigation Summary Report (EKI, 2015), the chemical data were compared to screening levels consisting of Presidio-wide human health and ecological preliminary remediation goals.

Chemicals of Concern

The following compounds were identified as potential chemicals of concern (PCOCs) in soil: PAHs (benzo[a]pyrene and dibenzo[a,h]anthracene), metals (arsenic, barium, copper, lead, and zinc), and dioxins/furans.

PCOCs were further evaluated to select COCs in soil that pose a potential risk to humans or ecological receptors at the site. Site-specific soil target levels were developed that represent levels of contaminants that are protective of site-specific users of Lendrum Court. These site-specific users include residential and recreational users, and ecologic receptors. Based on this evaluation, the following COCs were identified in the soil at Lendrum Court:

- COCs Presenting a Potential Human Health Risk:
  - Debris Fill: Arsenic, lead, benzo(a)pyrene, benzo(a)pyrene equivalents, dibenzo(a)anthracene, and dioxins/furans present a potential human health risk to residential receptors.
  - Outside of the Debris Fill: Lead and dioxins/furans present a potential human health risk to recreational receptors.
- COCs Presenting a Potential Ecological Risk:
  - Debris Fill: Barium, copper, lead, and zinc exceed the Presidio soil screening level for ecological buffer zone receptors.
  - Outside of the Debris Fill: Lead is present at a concentration that exceeds the Presidio soil screening level for special-status ecological receptors.

Based on the presence and concentrations of COCs in soil at Lendrum Court, soil over an approximate 2.4-acre

area to depths of 5 feet poses a potential risk to human health and the environment, and requires remediation. The volume of contaminated soil with concentrations of COCs above cleanup levels is estimated at approximately 22,500 cubic yards (cy).

Proposed Remediation Alternatives

Planned future land use at Lendrum Court is residential, with the area to the east maintained as historic forest. Considering these land-use intentions, the following remedial alternatives were evaluated:

- Alternative 1 – No Action
- Alternative 2 – Excavation and Disposal of COC-impacted Material
- Alternative 3 – Consolidation, Capping, with Land Use Controls , and Post-Remediation Monitoring (the proposed Project)

The proposed Project (Alternative 3) would combine multiple technologies for removal/consolidation of Army-era debris and incinerator ash from the shallow sub-surface, construction of a site cover, and implementation of LUCs. Contaminated material that cannot be consolidated within the capped area limits would be excavated, characterized, and transported for off-site disposal at a licensed landfill facility. The volume of soil that would be removed is estimated at approximately 1,500 cy and includes the organic-rich upper 4 to 6 inches of soil.

In the landscaped area, the cap would include both hardscape and soil caps. Hardscape areas include: asphalt roadways and paths, decomposed granite footpaths, concrete sidewalks, building foundations, and patios. In vegetated areas, a soil cap consisting of a wire/geotextile mesh layer that serves as a visible marker of the top of the contaminated layer and as a gopher barrier, and an approximately 1.5 feet of clean soil cap, would be constructed. The soil cap would be placed over in-place and consolidated waste debris and soil. The soil cap would be vegetated with a mix of native and landscape plants in accordance with the PTMP. The constructed cover would require an estimated 3,800 cubic yards of imported clean fill soil.

In the historic forest area, the constructed cap would consist of a mesh or geotextile grid topped with six inches to 1.5 feet of soil. Rock or similar material would be placed around the trees to protect the root structure, allow air exchange, and promote water infiltration. The constructed cover would require an estimated 1,500 cubic yards of clean soil import.

A total estimated 5,300 cy of imported fill would be required to establish the desired final surface for restoration. Clean fill is anticipated to be sourced from properly characterized soils generated by other projects within the Presidio. However, if additional or alternative clean fill is necessary, those soils would likely be sourced from alternative projects within the regional vicinity. Additional or alternative fill material would be anticipated to come from projects located in Livermore, Castro Valley, or Fulton, and would provide aggregate and other materials to the Lendrum Courte project site.

The former incinerator area is now a drainage swale between Highway 101 and a connecting ramp from Highway 1. Contaminated soil in this area is currently capped with a 2 foot thick soil cover which was installed by a contractor for the Doyle Drive Replacement Project. In this area, the existing cap would be maintained and an LUC would be adopted.

LUCs would be implemented in the landscaped area, historic forest, and former incinerator area to limit future land uses, preserve the integrity of the cover, and provide soil management and health and safety protocols for maintenance work that penetrates the hardscape or soil covers. Protocols for cover maintenance and intrusive work within and below the cover would be outlined in a site-specific Operation and Maintenance Plan.

Post-remediation site restoration would occur at all areas disturbed by the remediation activities and would consist of the establishment of native and non-native plants, grasses, and turf in landscaped areas of the site. Planted areas would be serviced with an installed irrigation system to support plant establishment and long-term growth and maintenance. Footpaths comprised of either decomposed granite or asphalt would be constructed through portions of the landscaped areas. Irrigation mainlines installed deeper than 1.5 feet below grade would be placed in clean corridors to facilitate future maintenance and minimize the potential for worker exposure to waste debris. The historic forest would be preserved during remedial construction. Following construction, the understory would be allowed to naturally re-establish, and select areas would be planted with native shrubs and small-stature trees.

The Project provides a high level of protection to human health and the environment; meets Applicable or Relevant and Appropriate Requirements; is compatible with the proposed land use of Lendrum Court for residential use.

Proposed Remediation Construction Activities

Remediation of the site is expected to occur over two construction seasons as independent construction projects. Phase 1 would occur during the first construction season in the residential portion of the site. This area is included in

Phase 1 to address human health risks first. The Phase 1 remediation would also be coordinated with other Trust landscape work in the North Fort Scott Area. Phase 2 would occur during the second construction season in the historic forest. The two phases are described below.

- Phase I: Residential/Landscape Areas
  - Disposal (truck trips): 90
  - Import from local source (truck trips): 210
  - Equipment (initial three months, typically seven workers): loader, backhoe, excavator, bulldozer, bobcat, water truck
  - Equipment (final two months, typically eight workers): bobcat, backhoe, water truck
- Phase II: Historic Forest/Recreational Areas
  - Disposal (truck trips): 30
  - Import from local source (truck trips): 90
  - Equipment (initial four months, typically seven workers): loader, backhoe, excavator, bulldozer, bobcat, water truck
  - Equipment (final one month, typically eight workers): bobcat, backhoe, water truck.

Proposed remediation activities entail removing existing vegetation with some perimeter hardscape. After excavation, consolidation, and stockpiling excavated material, characterization of the excavated material would be performed. Material unsuitable to remain onsite would be hauled offsite to an appropriately licensed landfill. The final step would be constructing the cap and restoring areas disturbed by the remediation activities, including installing an irrigation system.

The Trust would undertake the remediation work in two phases, with the landscape and residential areas occurring in summer 2015, and the historic forest/recreational areas occurring in spring and summer 2016. The contractor (or contractors) would mobilize equipment and workers to the Project staging areas, which would be fenced to exclude the public. The initial phase of the work in the landscape and residential areas would utilize a staged approach to perform the work on sections of the site at any one given time to reduce the impact to the residents of the neighborhood.

Access to the remedial construction sites and staging areas would be established. During excavation, visual observations would be made to determine if material is unsuitable for reuse and cannot be consolidated at other areas of the site. This material would be sampled and stockpiled for disposal, and is anticipated to include the top 4 to 6 inches of soil. Soil that can be consolidated at other areas of the site would be moved directly to that location or stockpiled for relocation when the relocation site becomes available. When the pre-cap construction grades are met, the surface would be prepared for placement of a mesh or geotextile barrier followed by 1.5 feet of clean soil as a soil cap. Irrigation lines would be placed across the site and where they extend below 1.5 feet, a clean corridor would be provided for future maintenance.

In several areas, contaminated soil would be excavated and consolidated under the site cap at other locations within the site boundaries. Where soil is removed and no cap is placed, confirmation samples would be collected to ensure that cleanup levels have been achieved.

The excavated material identified as unsuitable for consolidation would be stockpiled at a temporary location in the staging area. The unsuitable material scheduled for disposal would be loaded onto haul trucks and taken to a landfill facility licensed to accept the material. Soil stockpiling and hauling is expected to occur periodically throughout the Project based on the sequence of cap construction and the area available for temporary stockpiling. Areas of waste exposed during site grading would be protected from erosion by the use of geotextile fabric, plastic sheeting, and application of water and soil stabilizers, as appropriate.

Areas of waste exposed during site grading would be re-contoured to stabilize site slopes and provide a suitable subgrade for placement of the cap. Appropriate erosion prevention controls would prevent erosion until the site is restored and replanted. The staging area for Lendrum Court would be across Lincoln Boulevard from the Crissy Field scenic vista overlook and parking area, at the junction of Lendrum Court and Lincoln Boulevard. Material excavated from the site would be trucked to the staging area for stockpiling pending characterization and hauling away. Off-site hauling would be by way of public highways, beginning at Highway 101 near the Golden Gate Bridge. Within the Presidio, the haul route to Highway 101 is approximately 0.3 mile. From Lendrum Court, any northbound trucks would travel north on Lincoln Boulevard to the northbound ramp to Highway 101, a distance of approximately 2,000 feet from where trucks first entered Lincoln Boulevard. Southbound trucks exiting the site would travel north on Lincoln Boulevard, take a right onto Merchant Road northbound for approximately 700 feet, and enter southbound Highway 101.

Construction activities associated with the proposed remedial actions would consist of the following:

Phase I Remediation Residential/Landscaped Area Construction:

Excavation, Consolidation, and Capping

- Mobilization
- Site preparation, including clearing and grubbing, and demolition, as needed
- Excavation and stockpiling or consolidation of material
- Hauling of excavated material identified as unsuitable to approved landfills
- Re-grading of the excavated surface
- Construction of site cap
    - Placement of a mesh and/or geotextile barrier to control burrowing animals
    - Placement of 1.5 feet of clean soil
    - Construction of hardscape elements
    - Construction of irrigation system

Environmental Protection and Public Safety

- Public education
- Installation of engineering controls in accordance with Best Management Practices (BMPs) used at the Presidio, including taping of nearby windows facing the work zones; covering and/or establishing misting systems around the work area, surface water runoff and erosion controls, and means of keeping soil off paved roads
- Installation of temporary exclusion fencing around the active work areas
- Establishment of traffic control signage and devices, as needed, at points of entry to public roadways
- Dust monitoring

Sampling and Testing

- Sampling and testing of the in-situ soil following soil removal in areas to be cleaned closed to confirm that remediation goals are attained in removal areas
- Sampling of stockpiles of excavated material for disposal

Phase I Site Restoration:

- Planting in accordance with the Presidio Trust PTMP and associated landscape design documents

Phase II Remediation Historic Forest Construction:

Excavation, Consolidation, and Capping

- Mobilization
- Site preparation and clearing and grubbing, as needed
- Excavation and stockpiling or consolidation of material
- Hauling of excavated material identified as unsuitable to approved landfills
- Re-grading of the excavated surface
- Construction of site cap
    - Placement of a mesh or geotextile barrier to control burrowing animals
    - Placement of rock or similar material around the base of historic forest trees to act as a surface barrier but allow air and water flow to the tree roots and root zone
    - Placement of between 0.5 to 1.5 feet of clean soil above the mesh and/or geotextile

Environmental Protection and Public Safety

- Public education
- Installation of engineering controls in accordance with BMPs used at the Presidio, including establishing misting systems around the work area if necessary, surface water runoff and erosion controls, and means of keeping soil off paved roads
- Installation of temporary exclusion fencing around the active work areas
- Establishment of traffic control signage and devices, as needed, at points of entry to public roadways
- Dust monitoring

Sampling and Testing

- Sampling and testing of the soil during excavation to confirm that remediation goals are attained in removal areas
- Sampling of stockpiles of excavated material for disposal

Phase II Site Restoration:

- Planting in accordance with the Presidio Trust Forestry Department recommendations to restore the historic forest understory

Specific Project construction activities are detailed below.

Site Preparation and Clearing, and Demolition: Vegetation would be removed from the grading areas at the onset of construction of each phase of work. To limit the potential for dust migration from the Project area in the landscaping and residential areas, vegetation removal would be limited to areas where construction activities are occurring, and would proceed segment by segment until work is complete. All understory vegetation would be cut back and removed from the historic forest area at once, but special care would be taken to protect the trees. Vegetation clearing would occur outside of bird nesting season, or following appropriate nesting surveys if performed within bird nesting season. Limited asphalt and concrete demolition would be required at certain locations. Mobilization would begin thereafter for each phase of work. The work areas would be fenced and posted for no entry. A staging area and stockpile location would be established at each site.

Contractor Mobilization: The construction contractor for each work phase would mobilize its equipment to the work site. Equipment would remain at each site as long as needed to complete the remediation, haul the excavated material from the site, grade the excavated area, construct the cap, and install erosion control measures.

Site Access: Access would be established from the staging area across from the Crissy Field scenic vista overlook and parking area, at the junction of Lendrum Court and Lincoln Boulevard. Rumble strips or a tire-washing facility would be established to ensure that vehicles leaving the site and staging areas do not carry soil onto public roads. Traffic control staff would be employed on haul days to coordinate traffic in the local area.

Standard stormwater pollution prevention plan BMPs used at the Presidio would be implemented to prevent erosion of disturbed areas and movement of sediment to areas outside the work area. These practices include, but are not limited to soil tracking controls such as tire sweeping/washing and road sweeping; erosion controls such as silt fencing and straw wattles in disturbed areas; dust control, including vehicle speed restrictions and the use of water on access routes; and drainage inlet protection as needed, including sand bags around drainage inlets and filter fabric within inlets that could be affected. Other soil stabilization measures may include use of binders, straw, biodegradable mats, and other methods, as necessary, taking into consideration the soil conditions, slope, natural habitat, and future planting activities.

Excavation and Consolidation: At Lendrum Court, approximately 5,000 cy of in-situ soil would be excavated to provide space for the engineered cap. Approximately 1,500 cy of this material would be hauled for off-site disposal because it would not be suitable for consolidation beneath the cap. The remaining 3,500 cy would be consolidated at other locations beneath the engineered cap.

Confirmation sampling during excavation would ensure that remediation goals are met and the soil with COCs in excess of remediation standards is removed from the areas not being capped. Excavation would be accomplished using front loaders, bulldozers, or backhoes depending on site grades and access. The excavated material would be placed in areas identified for consolidation of impacted soils or stockpiled for future consolidation or transport offsite.

Characterization, Transport, and Disposal of Excavated Soil: Front loaders would be used to transfer material from the stockpiles to the haul trucks. It is assumed that 18-cy capacity trucks would be used. At Lendrum Court, excavation is estimated to take 12 weeks off and on due to the segmented approach to construction, and yield about 1,500 cy of material to be hauled offsite to a landfill licensed to receive the material. An estimated 20 cy of concrete and asphalt material would be hauled off for recycling. Miscellaneous debris would be recycled as practicable.

Prior to hauling offsite, the excavated material would be characterized for purposes of selecting appropriate landfills for disposal. The Trust currently anticipates disposing of Class I non-Resource Conservation and Recovery Act waste from the site at Buttonwillow Landfill in Kern County, and Class II and Class III waste at Potrero Hills Landfill in Solano County. However, if necessary, the Trust could haul waste to several other permitted landfills beyond the regional vicinity of the project, with the most distant including the ECDC Environmental Landfill in Salt Lake City, Utah, and the US Ecology, Inc. Landfill in Boise, Idaho. A list of additional permitted landfills is included in the Presidio's Non-Owned Disposal Site Coverage Endorsement (Zurich 1999). If additional or alternate landfills other than the anticipated are selected for off-site disposal after a contractor has been selected for the remedial action, the Trust would notify the DTSC of the alternate landfill prior to transport of material offsite.

Recontouring, Soil Stabilization, and Site Restoration: Excavation, consolidation, and capping would alter the current site topography in some areas and result in changes to slopes. Following excavation and consolidation, each site would be graded, gopher barrier and/or geotextile grid would be installed, the irrigation system would be constructed, and the site would be backfilled with imported soil to create a stable area for revegetation, as

needed. An estimated 5,300 cy of imported fill would be required to establish the desired final surface for restoration, and would be sourced from locations described above under Proposed Remediation Construction Activities. Additionally, several concrete patios and a decomposed granite (DG) path would be constructed in the landscape area as part of the cap. Soil on disturbed and backfilled areas would be stabilized in accordance with the final site design. Measures to stabilize the soil would include using straw, biodegradable mats, and other methods, as necessary, taking into account the nature of the soil and slope. Following the remediation activity in the landscape/residential areas, site restoration would establish a native and ornamental planting layout consistent with the Presidio Trust Planning Department's landscape design. In the historic forest area, the understory would be revegetated with direction from the Presidio Trust Forestry Department.

Schedule At Lendrum Court, the remediation contractor is scheduled to mobilize to the site in July 2015 for the landscape/residential phase, with the remedial action work expected to require approximately 12 weeks and be complete by October 2015. The historic forest phase of work is expected to start in June 2016 and require 12 to 16 weeks, and be complete by October 2016. Revegetation and restoration work would be done concurrently with remediation during both phases and would likely extend two to four weeks after remedial construction is complete.

ENVIRONMENTAL IMPACT ANALYSIS:

1. Aesthetics

Project Activities Likely to Create an Impact:

- Presence of equipment, fencing, and temporary work site and stockpiles
- Vegetation clearing, excavation, and grading
- Establishment of construction vehicle access routes in a residential neighborhood

Description of Baseline Environmental Conditions:

The Lendrum Court Project (Project) area is located in the northwest corner of the Presidio, bordered by Lendrum Court and Armistead Road to the south. The Project area is bordered by historic forest (cypress and eucalyptus) and Lincoln Boulevard to the east and north. The Project area is comprised of an approximately 4.5-acre area located in the Fort Scott district with the San Francisco Bay to the east and the Golden Gate Bridge to the north. A steeply sloping terrace is located to the east of the site, past the historic forest. Uses within the Project area include residential dwelling units situated along Lendrum Court. Recreational trails are not present within the historic forest.

The National Park Service (NPS) and the Presidio Trust (Trust) manage several recreational areas and trails throughout the Presidio. Recreational areas in the vicinity of the site include the Crissy Field recreation area, San Francisco Bay Trail, and Battery East Trail, which are located to the east and north of the site ranging from approximately 0.05 mile to 0.15 mile away. The Crissy Field scenic vista overlook is located approximately 0.10 mile to the southeast of the Project site, offering views of the recreation area and of the San Francisco Bay. The surrounding area to the south and west includes the El Camino Real (Highway 101), and mixed residential and recreational areas beyond that.

Vegetation in the Project area generally consists of well-developed cypress and eucalyptus trees located within the historic forest to the east and north of the Project site. Low-lying grasses, shrubs, and landscaped vegetation are also located throughout the residential complex.

Analysis as to whether or not project activities would:

a. Have a substantial adverse effect on a scenic vista.

Impact Analysis:

Short-term construction-related impacts would occur at the Crissy Field scenic vista overlook, as the staging area for the Lendrum Court Project would be located near the overlook and parking area. The area would be used for staging of equipment and/or temporary stockpiling of excavated materials for identification and offsite disposal. Impacts would occur during the remediation construction phase only, which would take place between approximately July 2015 and December 2015 for Phase I remediation construction of the proposed Project, and between approximately June 2016 and October 2016 for Phase II remediation construction of the proposed Project. The temporary staging area would be fenced and properly demarcated to exclude the public, and would not prohibit the use of the scenic vista overlook.

Temporary visual changes would occur at the scenic vista overlook area during the remediation construction windows described above due to the presence of construction equipment and/or material stockpiles; however, impacts would not block views of the San Francisco Bay or of the Crissy Field recreation area for scenic overlook vista users. Cyclists and pedestrians using the Battery East Trail would have a view of the staging area as they pass by the overlook; however, it would not constitute a significant visual impact because it would be temporary and would be removed at the termination of remediation construction phases.

Establishment of the temporary staging area would not require the removal of any vegetation or site grading, and after remediation construction, the area would be returned to pre-construction conditions. Therefore, the Project would have a less-than-significant impact on the scenic vista.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

Impact Analysis:

The proposed Project would not damage any scenic resources within a designated State scenic highway. Based on review of the California Scenic Highway Mapping System, there are no designated State scenic highways within San Francisco County, although State Route 1 over the Golden Gate Bridge and Interstate 80 are eligible roadways. Removal of ground vegetation would be necessary at grading and excavating areas at the site; however, no trees would be damaged or removed from the historic forest, and special care would be taken to ensure protection of trees during Phase II remediation construction activities.

Post-remediation construction, any disturbed areas within the landscape/residential area would be restored with native and ornamental vegetation, and turf consistent with the Presidio Trust Management Plan and site-specific landscape design plans. Furthermore, the understory of the historic forest would be revegetated with appropriate understory plants with direction from the Presidio Trust Forestry Department. The proposed Project would not have long-term visual effects on scenic resources, and would not be located within a State scenic highway area, and therefore, would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Substantially degrade the existing visual character or quality of the site and its surroundings.

Impact Analysis:

There would be short-term impacts that would degrade the existing visual character or quality of the site and of the immediate surroundings due to remediation construction activities and the presence of temporary equipment and fencing. However, these impacts would be limited to the remediation construction phases, which would occur between approximately July 2015 and October 2015 for Phase I remediation construction, and between approximately June 2016 and October 2016 for Phase II remediation construction of the proposed Project. The impacts would not constitute a substantial impact because of their temporary nature and their limited geographic extent. Moreover, post-construction restoration would return the visual character of the site to as close as possible to pre-construction conditions. Therefore, impacts on the visual character and quality of the site would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Impact Analysis:

Construction activities would be performed during daylight hours. No nighttime work is anticipated; however, if night work is necessary, it would be performed in accordance with applicable or relevant and appropriate requirements detailed in the Project Feasibility Study/Remedial Action Plan. The Project would produce light and glare from nighttime use of equipment and area lighting.

Glare may be visible during the daytime as a reflection from glass and metal surfaces on vehicles and equipment. However, the remediation construction period would be temporary. Because construction vehicles would be constantly moving, any glare that might occur from vehicles would be transitory for viewers. Light or glare caused by construction equipment and vehicles would also be minimized during the Phase I Remediation Construction period by utilizing a segmented approach to perform work on only small areas of the site at any one given time, thus reducing the amount of equipment and vehicles in the residential area and reducing the potential for excess light or glare. During Phase II of the proposed Project, vegetation from the historic forest would screen light and glare from residential structures.

The potential for people offsite to observe light or glare is very limited. As a result of the limited duration of the effects, the Project would not produce new sources of light or glare that would adversely affect day or nighttime views; therefore it would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Caltrans 2011. California Scenic Highway Mapping System. San Francisco County. Online: http://www.dot.ca.gov/hq/LandArch/scenic_highways/. Site visited March 27, 2015.
3. National Park Service (NPS) 2015. Presidio of San Francisco. Online: http://www.nps.gov/prsf/index.htm. Site visited March 27, 2015.
4. NPS and Trust, 2003. *Presidio Trails and Bikeways Master Plan and Environmental Assessment.* July.
5. NPS 1994. Creating a Park for the 21st Century, from Military Post to National Park - Final General Management Plan Amendment, Presidio of San Francisco, Golden Gate National Park Recreation Area, California.
6. NPS, 1993a. National Register of Historic Places Registration Form for the Presidio of San Francisco.
7. San Francisco Planning Department 2003. San Francisco Preservation Bulletin No.10. Historic and Conservation Districts in San Francisco. Online: http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=5082. Site visited April 2, 2015.
8. The Presidio Trust (Trust) 2015. Trails and Overlooks. Online: http://www.presidio.gov/explore/trails/pages/default.aspx. Site visited March 27, 2015.
9. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
10. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.
11. Trust 2015. Fort Winfield Scott. Online: http://www.presidio.gov/explore/Pages/fort-scott.aspx. Site visited April 2, 2015.

2. Agricultural Resources

Project Activities Likely to Create an Impact:

- None

Description of Baseline Environmental Conditions:

Neither farmlands nor areas zoned as forest land or timber land occur within the Presidio; therefore, this topic is not evaluated further for the Lendrum Court Project.

Analysis as to whether or not project activities would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Conflict with existing zoning or agriculture use, or Williamson Act contract.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. NPS 1994. Creating a Park for the 21st Century, from Military Post to National Park - Final General Management Plan Amendment, Presidio of San Francisco, Golden Gate National Park Recreation Area, California.
2. Trust and NPS 2001. Vegetation Management Plan and Environmental Assessment for the Presidio of San Francisco. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-344-VmpEa_200112.pdf. Site visited April 2, 2015.

3. Air Quality

Project Activities Likely to Create an Impact:

- Use of heavy equipment and construction vehicles
- Excavation and loading of contaminated soil into trucks for off-site disposal
- Stockpiling of soils for off-site disposal or consolidation
- Capping activities
- Site re-grading activities

Description of Baseline Environmental Conditions:

The Presidio is in the nine-county San Francisco Bay Area air basin, which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). Table 3-1 shows each of the ambient air quality standards and the attainment designation of the BAAQMD with respect to each standard. Air circulation in the vicinity of the site is excellent, as it is located in close proximity to air flow from San Francisco Bay and the Pacific Ocean.

The State CEQA Guidelines allow lead agencies to rely on criteria recommended by the local air district in making determinations of significance for air quality impacts. The BAAQMD does not presently recommend thresholds as a generally applicable measure of significance. However, in the past (2010) the BAAQMD developed and proposed thresholds of significance that are relevant to the Project.

Table 3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	State-level Attainment Status	National Standards	Federal Attainment Status
Ozone	1-hour	0.09 ppm	Nonattainment	-	
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	µg/m3	Nonattainment	150 µg/m3	Unclassified
	Annual Mean	20 µg/m3	Nonattainment	-	
Fine Particulate Matter ($PM_{2.5}$)	24-hour	-		35 µg/m	Nonattainment
				15 µg/m3	
	Annual Mean	12 µg/m3	Nonattainment		Attainment
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment
	8-hour	9.0 ppm	Attainment	9.0 ppm	Attainment
Nitrogen Dioxide ($N0_2$)	1-hour	0.18 ppm	Attainment	0.100 ppm	Unclassified
	Annual Mean	0.030 12ppm	Attainment	0.053 ppm	Attainment
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	Attainment	0.075 ppm	Attainment
	24-hour	0.04 ppm	Attainment	0.14 ppm	Attainment
	Annual Mean			0.03 ppm	Attainment
Lead	30-day Average	1.5 µg/m	Unclassified	-	
	Calendar Quarter	-		1.5 µg/m3	Attainment

Notes: ppm=parts per million; µg/m3=micrograms per cubic meter; "-"=no standard
Source: BAAQMD, 2010.

The BAAQMD developed standard measures to reduce impacts to air quality resulting from construction activities (BAAQMD, 2012). For PM_{10} and $PM_{2.5}$ related to construction fugitive dust, rather than achieve specific emissions thresholds, projects may avoid causing a dust impact if they include best management practices. The BAAQMD-proposed thresholds for criteria air pollutant emissions (BAAQMD, 2010) indicate that a project during construction may cause a significant impact if it would:

- emit more than 54 pounds per day (lb/day) of reactive organic gases,
- emit more than 54 lb/day of nitrogen oxides,
- emit more than 82 lb/day of PM_{10} from exhaust, or
- emit more than 52 lb/day of $PM_{2.5}$ from exhaust.

The BAAQMD-proposed thresholds for community risk and hazards (BAAQMD, 2010) indicate that a project may cause a significant impact if the emissions create:

- increased incremental cancer risk greater than 10.0 in a million;
- increased non-cancer hazard greater than 1.0 Hazard Index for chronic or acute hazards;
- incremental increase of annual average $PM_{2.5}$ concentration greater than 0.3 micrograms per cubic meter) from a single source.

In terms of air quality, sensitive receptors are located at facilities such as schools, hospitals, and nursing facilities. The nearest sensitive receptor to the proposed Project is the University of San Francisco Presidio adult education building located at 920 Mason Street, approximately 0.2 mile east, adjacent to Crissy Field.

The proposed Project is located in the North Fort Scott residential area, in the northwest corner of the Presidio. The site is easily accessed from Highway 101 by way of entrance/exit ramps near the bridge toll plaza. Southbound traffic on Highway 101 would exit and enter at Merchant Road. Northbound Highway 101 traffic would exit and enter the Presidio by way of ramps connecting with Lincoln Boulevard.

The footprint of the Project area is a relatively small area, encompassing approximately 4.5 acres, and it is anticipated that only the top 4 to 6 inches of soil, totaling approximately 1,500 cubic yards (cy), would be removed from the Project site, by way of trucks, for off-site disposal at an appropriate landfill facility. Transport of the contaminated soil would generate approximately 90 truck round trips to be performed on approximately three haul days (30 trips per day) throughout the approximately 12 weeks during remediation construction activities for Phase I, and approximately 30 truck round trips to be performed on approximately two haul days (13 trips per day) throughout the approximately 12 to 16 weeks during

remediation construction activities for Phase II of the proposed Project. The final volume of material to be disposed of would depend on the final characterization of excavated soils at the site. The number of personal vehicles from Project workers would be negligible compared to the existing traffic levels in the Presidio and nearby streets.

Material removed from the site is currently expected to be disposed of at the Potrero Hills Landfill, approximately 61 miles away in Solano County, for Class II and Class III materials, or at the Buttonwillow Landfill, approximately 266 miles away in Kern County, for Class I materials. However, several other permitted landfills outside of the region, including the ECDC Environmental Landfill in Salt Lake City, Utah, and the US Ecology, Inc. Texas Ecologists, Inc. Landfill in Boise, Idaho as the most distant landfills, could be utilized if necessary. If additional or alternate landfills other than the anticipated are selected for off-site disposal, the Trust would notify the DTSC of the alternate landfill prior to transport of material offsite. All materials hauled to any additional or alternate landfills would also be transported in accordance with all transportation control measures to ensure dust erosion control.

To reach the Potrero Hills landfill, trucks would enter southbound Highway 101 by way of Merchant Road near the Golden Gate Bridge toll plaza. Trucks would drive through San Francisco on Highway 101, which is coincident with Lombard Street and Van Ness Avenue through the City. Once on the freeway again, the trucks would follow Interstate 80 east across the San Francisco Bay Bridge to State Route 12 east, which leads to the Potrero Hills Landfill. Class I material going to Kern County would use a similar local route, but would use Interstates 880, 680, and 5 once across the bridge. Empty trucks would reverse these routes. If an alternate landfill is identified to the north of the Presidio, trucks would proceed onto northbound Highway 101 via the on ramp at the east side of the toll plaza, before continuing on to those disposal facilities.

Additionally, excavation, consolidation, and capping of disturbed areas would slightly alter the current contours and topography of the site. Following excavation and consolidation of each section of the site, a gopher barrier and/or geotextile grid would be laid, and a cap of approximately 1.5 feet of clean imported fill, totaling approximately 5,300 cy, would create a stable area for revegetation, as necessary. Several concrete patios and a DG path would also be constructed within the landscape area, per the Presidio Trust Planning Department's landscape design.

Analysis as to whether or not project activities would:

a. Conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis:

Measures to address potential air emissions and control dust and odors would be incorporated into the remediation construction designs (Phases I and II of remediation construction), consistent with BAAQMD standards and requirements. Samples collected at the proposed Project site indicated that incinerator ash is present in subsurface soils near residential buildings abutting Lendrum Court. Dust control and monitoring measures would be implemented wherever the soil is exposed, including use of misting systems to moisten soils, and covering of any stockpiled soils.

Best Available Control Technologies (BACTs) would also be adopted to maintain the site and operate equipment in a manner that would minimize air emissions. Typical BACTs include measures such as keeping equipment tuned and in good working order, limiting idling times to five minutes or less, using equipment that has lower emissions (e.g., off-road diesel equipment certified to achieve Tier 3 standards), and not operating equipment at times that would exacerbate wind erosion. Over the course of activity, the average daily emissions caused by the construction and remediation would be minor and at a level that would be a fraction of proposed thresholds for construction-phase emissions. The 2010, the BAAQMD-proposed thresholds are listed on the BAAQMD website; however, the newer 2012 BAAQMD CEQA guidelines do not require the use of the thresholds. Quantification of construction-related emissions is no longer mandatory.

Samples collected at other remediation construction sites within the Presidio have contained serpentinite soil and rock containing naturally occurring asbestos (NOA). During the remedial actions, dust may be emitted from open excavations, soil stockpiles, and vehicles transporting excavated materials. However, eight representative samples were taken by TRC at the Lendrum Court site to determine if NOA is present in soils. Seven of the eight samples did not contain NOA, and the eighth sample contained less than 0.25 percent NOA by weight, which is below significance levels, and not harmful to human health. Bedrock which could contain serpentinite rock is present at the site, however, remediation construction activities are not anticipated to reach bedrock, and if it is encountered, construction activities would not disturb the bedrock. Therefore, NOA will not be monitored at the site during remediation construction phases.

Additionally, remediation construction activities would be undertaken in a segmented approach, which would minimize the amount of exposed soils and construction equipment at any particular time, reducing the potential for air

emissions to occur from the site. Any potential emissions would be temporary, limited to an approximately 12-week timeframe for Phase I and approximately 12 to 16 weeks for Phase II, and with the implementation of control measures into the construction and remediation design, the Project would not conflict with or obstruct implementation of the applicable air quality plan, and would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact Analysis:

During remediation construction activities, dust may be emitted from open excavations, soil stockpiles, and vehicles transporting excavated materials. Incinerator ash has been identified in soils at the proposed Project site. As previously described, TRC conducted representative sampling at the site to determine the presence of NOA. Of the eight samples taken, seven did not contain any NOA, and the eighth contained less than 0.25 percent NOA by weight. Therefore, asbestos would not violate any air quality standards, and would not be monitored during project activities. Compliance with Compliance with the Dust Mitigation and Monitoring Plan and HASP would further reduce any potential impacts, and BACTs would be used to reduce dust emissions, including watering all exposed surfaces as required, covering materials during transport, and minimizing construction equipment usage at all times, including shutting off idling equipment, as appropriate. The BAAQMD reports that these types of management practices are effective at reducing dust emissions to levels that would not be expected to violate or contribute substantially to an air quality violation (BAAQMD, 2012), and the resulting impact would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Result in cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Impact Analysis:

Excavation equipment and trucks would be used to implement the Project, resulting in vehicular emissions from heavy equipment, trucks, and other vehicles for the duration of activities at the site. It is estimated that approximately 1,500 cy of material would be removed from the site, which is anticipated to take a total of approximately 120 truck round trips to haul material offsite. This would result in approximately five haul days (23 average trips per day) throughout the two phases of remedial construction. After excavation and consolidation activities, approximately 5,300 cy of imported fill would be hauled to the site for capping, requiring approximately 300 truckloads.

Although truck routes are expected to be near sensitive receptors in the Presidio area, this level of on-road traffic activity is nominal when compared to traffic on Highway 101 through the Presidio and nearby roadways. Thus, a detailed air quality analysis is not required and vehicular emissions would be considered less than significant. In addition, the proposed work is not expected to significantly impact ozone levels. A CalEEMod model run has been performed to provide emissions estimates for both phases of the project. The model was run without mitigation measures. Emissions are summarized in Table 3-2. While the thresholds proposed in 2010 have been removed in the BAAQMD's current CEQA guidelines, they have been provided for comparison purposes. The project emissions are shown to have less than significant impact relative to the 2010 threshold values.

Table 3-2. Construction Emissions

	ROG	Nox	Exhaust PM10	Total PM10	Exhaust PM2.5	Total PM2.5
	Pounds per Day					
Phase I (2015)	1.1	13.9	0.5	2.5	0.5	1.5
Phase II (2016)	1.1	12.2	0.5	2.4	0.5	1.5
BAAQMD 2010 Thresholds	54	54	82	-	52	-

Remediation construction at the site is scheduled between approximately July 2015 and December 2015 for Phase I of the proposed Project, and between approximately June 2016 and October 2016 for Phase II of the proposed Project. During this time, other unrelated construction projects also would occur in the area, including the Doyle Drive Parkway Replacement Project, located just south of the Lendrum Court Project, and the continuing Presidio Main Post Update Projects. These projects are approximately 0.75 mile from the Lendrum Court Project site.

- According to the Doyle Drive project Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) (FHWA & SFCTA, 2008), vehicles involved in Doyle Drive construction would include trucks hauling debris and delivering construction materials and supplies, commuter vehicles driven by construction workers, and vehicles used for construction such as graders and heavy earthmoving and paving equipment. Travel volumes would vary depending on the specific construction activity and schedule. Truck trips generated by the project would be a very small fraction of the daily traffic on Doyle Drive.

- The Presidio Main Post Upgrade Projects include reconstruction of existing buildings, structural improvements and seismic work, roadway and utility upgrades, and other infrastructure enhancements. The Supplement to the Draft EIS for the projects indicates that construction vehicle traffic would vary depending on the specific construction activity and schedule. Construction vehicles would generally enter the Presidio via Richardson Avenue (Gorgas or Lombard Gates) or the Golden Gate Bridge toll plaza (Lincoln Boulevard) (Trust, 2009).

Remediation construction at the Lendrum Court site would result in emissions from equipment and vehicles. Measures to address emissions and control dust and odors would be incorporated into the remedial designs as BACTs. Additionally, construction-related emissions of ozone precursors and other criteria pollutants would be short term and are included in the emissions inventory that is the basis for regional air quality plans. Based on these factors, the Project activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or State ambient air quality standard (including emissions that exceed quantitative thresholds for ozone precursors). Impacts would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis:

There are no sensitive receptors located within or adjacent to the proposed Project site. However, the University of San Francisco Presidio adult education building located at 920 Mason Street, is approximately 0.2 mile east, and the San Francisco Bay Trail and the Battery East Trail are located to the east and north of the Project, ranging from approximately 0.05 mile to 0.15 mile away. A temporary staging area for Project equipment and materials would also be established at or near the parking area for the Crissy Field scenic vista overlook. However, access to the work site and all temporary staging areas would be restricted by fences and appropriate signs. Dust control measures would also be implemented to reduce potential air quality impacts to site workers and visitors to the Presidio to less-than-significant levels.

Due to the temporary nature of impacts and the implementation of dust control measures, Project activities are not anticipated to expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Create objectionable odors affecting a substantial number of people.

Impact Analysis:

Remediation construction activities are not anticipated to produce objectionable odors. Airborne particles that potentially carry odor would be minimized by dust control measures. Diesel vapors created by equipment on site would be minimal and would not affect sensitive receptors due to the temporary nature of construction, the limited work area, and the limited number of daily truck trips necessary to transport equipment and materials. All diesel-powered equipment would use ultra-low-sulfur diesel fuel, as it is mandatory in California. Impacts related to odors would, therefore, be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

f. Result in human exposure to Naturally Occurring Asbestos.

Impact Analysis:

Serpentinite bedrock, which may contain naturally occurring asbestos, is present at the Lendrum Court site; however, the Project is not anticipated to disturb bedrock. Serpentine bedrock outcrops would be mapped prior to construction and the soil cap would be designed to conform to the outcrop, avoiding, to the extent possible, disturbance of the outcrop.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Bay Area Air Quality Management District (BAAQMD), 2012. California Environmental Quality Act, Air Quality Guidelines.
3. Bay Area Air Quality Management District (BAAQMD), 2010. Proposed Air Quality CEQA Thresholds of Significance.
4. Presidio Parkway 2015. Doyle Drive Final Environmental Impact Statement Report, 2008. Chapter Four California Environmental Quality Act (CEQA) Evaluation. Online http://www.presidioparkway.org/pdfs/feis/chapter_04.pdf. Site visited April 2, 2015.
5. Presidio Parkway 2015. Doyle Drive Final Air Quality Study, 2004. Online: http://www.presidioparkway.org/pdfs/feis/tech_reports/final_air_quality.pdf. Site visited April 2, 2015.
6. Trust 2009. Revised Draft Main Post Update to the Presidio Trust Management Plan. Online: http://library.presidio.gov/archive/documents/MP_PTMP_Update_Feb2009.pdf. Site visited April 2, 2015.
7. Zurich. 1999. Non-Owned Disposal Site Coverage Endorsement Off-Site and On-Site.
8. EMSL Analytical Inc. 2015. Test Report: PLM Analysis of Bulk Samples for Asbestos. May.

4. Biological Resources

Project Activities Likely to Create an Impact:

- Vegetation Removal
- Excavation and loading of contaminated soil into trucks for off-site disposal
- Site Re-grading

Description of Baseline Environmental Conditions:

The Project site is composed of three habitat types: (1) developed land, (2) ruderal grassland/ornamental woodland, and (3) eucalyptus semi-natural forest stands. No sensitive habitats (including wetland and aquatic habitats) were identified during the reconnaissance survey of the Project site. The majority of the site and adjacent areas have been disturbed by anthropogenic activities such as road traffic, residential development, ongoing road and landscape maintenance, and historic earthmoving activities performed by the U.S. Military.

Ruderal grassland/ornamental woodland habitat on the Project site includes grassy areas adjacent to apartment buildings and narrow, roadside strips of vegetation. The herbaceous layer is generally dominated by non-native annual grasses, such as meadow barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and bluegrass (*Poa annua*), although there are forb patches including English ivy (*Hedera helix*) and sourgrass (*Oxalis pes-caprae*). Other common forbs noted during the reconnaissance survey include poison hemlock (*Conium maculatum*), prickly lettuce (*Lactuca serriola*), cutleaf geranium (*Geranium dissectum*), filaree (*Erodium* ssp.), and narrowleaf plantain (*Plantago lanceolata*).

Planted trees are widely scattered across this habitat, including Monterey pine (*Pinus radiata*), Canary Island pine (*Pinus canariensis*), Monterey cypress (*Hesperocyparis macrocarpa*), and lollypop tree (*Myoporum laetum*). Two stands of forest occur on the Project site, which are characterized by a dense overstory dominated by blue gum (*Eucalyptus globulus*), and therefore, these areas were classified as eucalyptus semi-natural stands (CDFW 2010).

Analysis conducted by H. T. Harvey & Associates at the site concluded that no special-status plant species are known to occur, or have the potential to occur at the Project site, however numerous special-status plant species are found in the Project vicinity and in the region. Similarly, while several special-status wildlife species occur in the vicinity and in the region, only one individual, the olive-sided flycatcher could potentially occur at the site.

A California Natural Diversity Database (CNDDB) was conducted in 2015, and the findings indicate that there is no State special protected species found within the Project site boundaries.

Analysis as to whether or not project activities would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impact Analysis:

No special-status plant species are known to occur, or have the potential to occur at the Project site. However, numerous special-status plant species are found in the Project vicinity and in the region; though it is not anticipated that Project remediation activities would impact those individuals.

The California red-legged frog *(Rana aurora draytonii)* and the monarch butterfly *(Danaus plexippus)*, two special-status species, have been recorded on the Presidio Trust lands and were yielded on a CNDDB query within a five mile radius of the Project site. However Project remediation is not expected to impact those individuals as they are not known to occur in the immediate project area. The only special-status animal for which breeding habitat or breeding sites (e.g., nests) could be impacted is the olive-sided flycatcher. Up to two pairs could potentially nest in the Project area. However, the Project will include a pre-construction nest survey for any activities occurring during the breeding season (1 February to 31 August), and if active nests are found, an appropriate buffer (typically 300 feet for raptors and 100 feet for non-raptors) will be established around any active nests to avoid causing the loss or disturbance of active nests. The Project would create only temporary impacts, and post construction revegetation would restore the site to Presidio Trust design standards. In conjunction with pre-construction nesting surveys, there would be a less than significant impact on special-status species.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impact Analysis:

Although several natural communities of special concern occur within the Project vicinity, including coastal brackish marsh, coastal terrace prairie, northern coastal salt marsh, northern maritime chaparral, and valley needlegrass grassland (CNDDB 2015), none of these sensitive habitats occur on the Project site itself. Furthermore, the site does not support wetland, aquatic, or riparian habitats.

Soil disturbance through excavation and re-grading activities could cause sedimentation that could migrate offsite and ultimately discharge to sensitive natural communities or baylands. However, implementation of construction BMPs including a soil and sedimentation plan and Storm Water Pollution Prevention Plan (SWPPP) would include Project-specific measures to reduce surface runoff and erosion. Remediation construction activities are also anticipated to occur during the dry season, and surface and groundwater are not anticipated to be encountered.

Excavation and re-grading activities also have the potential to contribute to the introduction or spread of weed propagules into nearby or downslope sensitive habitats. Spread of weed propagules from the Project site into nearby habitats would be avoided through the use of BMPs involving management and handling of the removed weedy material from the site so that it is not spread to or deposited in sensitive habitats in surrounding areas. Finally, the Project site would be capped with clean soil and revegetated with designs consistent with the Presidio Trust Department's landscape design and with oversight from the Presidio Trust Forestry Department, and would provide for ecological restoration of the project area. Therefore, the Project would not substantially affect any identified sensitive habitats or communities, and would have a less than significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Impact Analysis:

There are no potential Waters of the U.S./State on the Project site, including Section 404 jurisdictional wetlands or other waters. Although a stormwater ditch is present on the Project site, it is not expected to fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE) or the San Francisco Regional Water Quality Control Board (RWQCB). Furthermore, the ditch is concrete-lined, and contains no wetland soils or vegetation. Therefore, the Project would not require a Section 404 Nationwide Permit from the USACE or a Section 401 Water Quality Certification from the RWQCB, and would have a less than significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Impact Analysis:

The Project site is not located within any regional movement pathways of any terrestrial animals such as reptiles, amphibians, or mammals. The Project site is located along the Pacific Flyway for birds, and the Project would result in the temporary loss or disturbance of a very limited area of potential breeding, foraging, and migrant stopover habitat for a variety of common bird species such as yellow-rumped warblers, Anna's hummingbirds, and Pacific wrens. However, due to fractional loss of potential habitat in comparison to the entire area of the Presidio and the regional abundance, and the temporary and segmented approach to construction, the Project is not expected to have a substantial impact on these species.

The olive-sided flycatcher is the only known special-status species that could utilize the Project area for breeding. However, as discussed above, the limited loss or disturbance of habitat and the short-term and temporary nature of the Project is not anticipated to create any impacts to nests of this species.

Vegetation removal would be scheduled to occur outside of bird nesting season to the extent possible. However, if vegetation removal were to occur during the bird breeding season, birds could be nesting and nests could be either physically disturbed/destroyed or indirectly disturbed by Project activities. To ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code, the Project will include a pre-construction nest survey for any activities occurring during the breeding season, and if active nests are found, an appropriate buffer (typically 300 feet for raptors and 100 feet for non-raptors) will be established around any active nests. No Project activities (that were not occurring when the nest was established) will occur within the buffer until the nest is no longer active. Due to the limited footprint of the Project, the temporary and segmented approach to construction, and implementation of pre-construction nest surveys, there would be a less than significant impact to migratory wildlife.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Impact Analysis:

The Project activities would not conflict with provisions of any local policies or ordinances regarding the biological resources at the Presidio. All vegetation removal activities would comply with the Presidio of San Francisco's Vegetation Management Plan (VMP), which has classified the Project site as falling within the historic forest and landscape vegetation zones (National Park Service and Presidio Trust 2001). However, special precautions will be taken to protect trees during construction activities, and no damage or loss of trees is anticipated. Therefore, the proposed project would have no impact on any tree preservation policies.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Impact Analysis:

Project activities would not conflict with any local, regional, or state habitat or natural community conservation plans. The Presidio Trust Management Plan (2002) provides guidance on remediation activities within Area B of the Presidio, which includes the Lendrum Court project site. Remediation construction activities would not harm trees located within the historic forest, and all re-vegetation and landscaping activities would be done with guidance and oversight from the Presidio Trust Planning Department and the Presidio Trust Forestry Department, and therefore would have no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

- H.T. Harvey & Associates. April, 2015. Presidio Trust Lendrum Court Remediation Project - Biological Resources Memorandum.
- California Department of Fish and Wildlife Natural Diversity Database, accessed March 8, 2015.

5. Cultural Resources

Project Activities Likely to Create an Impact:

- Removal of vegetation
- Excavation and removal of excavated material
- Re-grading

Description of Baseline Environmental Conditions:

The proposed Project is located within the Presidio of San Francisco National Historic Landmark District (NHLD). As a federal agency, the Trust is required to comply with the National Historic Preservation Act (NHPA). The Trust has entered into a programmatic agreement (PA) with the NPS, the Advisory Council on Historic Preservation, and the State Historic Preservation Office. The PA details how the Trust would comply with its obligations under Section 106 of the NHPA. Key to that process is identification of historic resources that may be affected by an action. As the PA recognizes, numerous surveys and evaluations have been conducted to identify National Register of Historic Places-eligible and NHLD-contributing properties for the entire NHLD.

For the purposes of CEQA, the Presidio itself is a national landmark. Although no cultural or historical structures are located within the Lendrum Court Project area, several sites within the Presidio are considered historical resources, with one of the closest being the Golden Gate Bridge. A portion of the Presidio forest, a historic forest, is also located along the northern and eastern boundaries of the Project area. Beginning in the late 1880s, the U.S. Army planted a vast eucalyptus, pine, and cypress forest throughout the Presidio. Today, the 300-acre forest is the largest feature that contributes to the Presidio's NHLD.

Native people, today referred to as Ohlone/Costanoans, were the earliest human inhabitants of the area now known as the Presidio. On December 23, 2009, the Native American Heritage Commission (NAHC) provided to the DTSC the results of the Sacred Land file search for the San Francisco Presidio project area. The NAHC did not locate resources in the Sacred Land file; however, the NAHC provided a list of Native American contacts who may have an interest in the Project. The tribal contacts will receive the Initial Study for review during the public comment period for the proposed Project.

Protocols are in place at the Presidio to address the treatment of any unanticipated discoveries. These protocols include stopping work and notifying the Presidio archaeologist of any discoveries.

Analysis as to whether or not project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Impact Analysis:

The proposed remedial actions would be conducted in accordance with the regulations governing cultural resources, including the NHPA, Archaeological Resources Protection Act, Archaeological and Historic Preservation Act, and Native American Graves Protection and Repatriation Act. Ground-disturbing activities would include vegetation removal; excavation of approximately 5,000 cy of in situ soil, resulting in approximately 1,500 cy to be hauled for removal and 3,500 cy to be consolidated at other locations of the site; and re-grading of disturbed areas. If a previously unknown historic resource is discovered, all work activities would be halted until a Cultural Resource Specialist can make a determination regarding the resource, and the proper measures are implemented in accordance with the regulations governing cultural resources.

If human skeletal remains are encountered during remedial activities, protocols under federal law would apply. All work would stop in the vicinity of the discovery, and the find would be secured and protected in place. The San Francisco County coroner and Trust archaeologists would be notified immediately. If a determination finds that the remains are Native American, and that no further coroner investigation of the cause of death is required, the coroner would contact the NAHC (pursuant to Section 7050.5[c] of the California Health and Safety Code) and the County Coordinator of Indian Affairs for informational purposes only. Disposition of the human remains would be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 Code of Federal Regulations (CFR) 10.4 (Inadvertent Discoveries).

Phase II of remediation construction would occur within the historic forest and is scheduled to occur for an approximate 12- to 16-week period between June 2016 and October 2016. All understory vegetation would be cut back or cleared at the commencement of construction activities; however, special care would be taken to protect trees from harm, and no tree removal is anticipated. Post-remediation activities of the site would include revegetation with guidance from the Presidio Trust Forestry Department.

Because the proposed Project activities would be conducted in accordance with the regulations governing cultural resources described above, and due to the fact that there are no known historical resources located at the Project site, a substantial adverse change in the significance of a historical resource is not anticipated, and the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5.

Impact Analysis:

Based on the extent of archaeological resources identified at the Presidio in the National Register of Historic Places, the proposed remediation construction activities would not produce substantial adverse changes to archaeological resources. The measures discussed in Section 5a would be implemented to reduce the impact of remediation construction and site restoration activities to a less-than-significant level.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impact Analysis:

Based on the extent of paleontological resources identified at the Presidio in the National Register of Historic Places, it is highly unlikely that the remedial actions would encounter a unique paleontological resource or site or a unique geologic feature. The measures discussed in Section 5a would be implemented to reduce the impact of remediation construction activities to a less-than-significant level.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Disturb any human remains, including those interred outside of formal cemeteries.

Impact Analysis:

As described in Section 5a, if human skeletal remains are encountered, protocols under federal law would apply. All work would stop in the vicinity of the discovery, and the find would be secured and protected in place. The San

Francisco County coroner and Trust archaeologists would be immediately notified. If a determination finds that the remains are Native American, and that no further coroner investigation of the cause of death is required, the coroner would contact the NAHC (pursuant to Section 7050.5[c] of the California Health and Safety Code) and the County Coordinator of Indian Affairs for informational purposes only. Disposition of the human remains would be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent Discoveries).

Because of the limited potential to encounter human remains or associated artifacts, and the degree of oversight being provided at this site, it is unlikely that the proposed Project would disturb any human remains, including those interred outside of formal cemeteries, and therefore, the proposed Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Anthropological Studies Center, Sonoma State University (ASC), 2005. Protocols for Archaeological Artifacts on Presidio Park Lands. November 2005.
2. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.
3. NPS 1994. Creating a Park for the 21st Century, from Military Post to National Park - Final General Management Plan Amendment, Presidio of San Francisco, Golden Gate National Park Recreation Area, California.
4. NPS, 1993a. National Register of Historic Places Registration Form for the Presidio of San Francisco.
5. Presidio Parkway 2015. Doyle Drive Cultural Resources: Potential Impacts within the APE, 2008. Online: http://www.presidioparkway.org/pdfs/feis/app_d.pdf. Site visited April 2, 2015.
6. San Francisco Planning Department 2003. San Francisco Preservation Bulletin No.10. Historic and Conservation Districts in San Francisco. Online: http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=5082. Site visited April 2, 2015.

6. Geology and Soils

Project Activities Likely to Create an Impact:

- Vegetation removal
- Excavation and grading

Description of Baseline Environmental Conditions:

The Presidio is located in an area with a high degree of tectonic activity. Major faults within a 25-mile radius of the Presidio include the San Andreas Fault, Hayward Fault, and Calaveras Fault. The bedrock underlying the San Francisco Peninsula consists of ocean-floor ultramafic basalts and sediments of the Mesozoic-age Franciscan Complex, which has been subjected to multiple episodes of shearing and faulting, resulting in intensive deformation and fracturing. The bedrock underlying the Presidio includes large percentages of serpentinite, a metamorphosed form of ultramafic rock (oceanic crust). The Franciscan bedrock at the Presidio is part of a major northwest-trending shear zone called the Fort Point-Potrero Hill-Hunters Point Shear Zone, which is part of the San Andreas Fault system. Quaternary-age sediments, including sands of the Colma Formation, dune and beach sands, slope debris, bay mud, and artificial fill, overlie the bedrock at the Presidio.

According to the Geologic Map of the San Francisco Bay Region (USGS, 2006), Lendrum Court is underlain primarily by alluvial fill material (i.e., Quaternary hillslope deposits) and by serpentinite bedrock. Based on a cut-and-fill map prepared by the Trust representing elevation changes from 1871 to 2000, cuts were made in native material in the Lendrum Court area to accommodate construction of roadways and building pads.

For the purposes of CEQA and remediation activities, based on previous remedial investigation activities at the site, four general layers have been identified in the shallow subsurface at Lendrum Court. These layers are listed below in order from the ground surface:

- overburden, a yellow-brown to brown silty sand with minor gravel;
- debris layer, a brown silty sand, which includes visible debris and which may or may not include visible ash;
- bottom layer, a yellow-brown to brown silty sand with no observed debris; and

- bedrock, a weathered serpentinite.

Analysis as to whether or not project activities would:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).

Impact Analysis:

No known active faults cross through the proposed Project area as delineated on Alquist-Priolo earthquake fault zoning maps. Furthermore, the Project activities would be limited in scope, and would only disturb an approximately 4.5-acre area. Remediation construction activities would also be temporary, lasting for approximately 12 to 20 weeks for Phase I, and approximately 12 to 16 weeks for Phase II, and would not subject people or structures to adverse impacts related to geologic and seismic hazards. The closest active fault is the offshore section of the San Andreas Fault, located approximately 7.0 miles west of the Project site. Because recognized active faults do not cross through and are not adjacent to the site, the fault rupture hazard at the site is considered to be negligible, and therefore, less than significant.

- Strong seismic ground shaking.

Impact Analysis:

The geological and seismic environments are not anticipated to expose people or structures to significant strong seismic ground shaking. As described above, there are no known faults bisecting the Project area. However, rupture on any of the San Francisco Bay Area faults would result in seismic ground shaking at the Project site. Remediation construction activities would only last a relatively short duration, and are unlikely to have an impact on geological and seismic conditions, including potential seismic ground shaking. Therefore, potential substantial adverse effects, including seismic ground shaking, would be less than significant.

- Seismic-related ground failure, including liquefaction.

Impact Analysis:

Liquefaction is the phenomenon in which loose, saturated, granular materials experience a sudden loss of shear strength due to seismic shaking. Soil liquefaction can induce differential settlement, lateral spread, and ground failure.

Based on review of U.S. Geological Survey liquefaction susceptibility maps of the San Francisco Bay Area, the Project is located within an area of low to very low liquefaction susceptibility. However, the steep, sloping terraces along the northern and eastern borders of the historic forest abut an area of high liquefaction potential. Although these terraces could potentially be subject to liquefaction, proposed Project earth-disturbing activities would not affect these slopes. The Project area is approximately 4.5 acres in size and is located away from any potentially liquefiable areas. Furthermore, construction activities would be completed during the dry season, and are not expected to encounter any surface or groundwater. Implementation of Stormwater Pollution Prevention Plan (SWPPP) BMPs and erosion control measures would reduce any risk of site runoff that could potentially result in liquefaction. Remediation construction would be short-term and temporary, and all disturbed areas would be re-graded and restored post construction; therefore, the Project would have a less-than-significant impact on seismic-related ground failure, including liquefaction.

- Landslides.

Impact Analysis:

The site is not located within a landslide hazards area as observed by the California Department of Conservation. However, the steep, sloping terraces along the northern and eastern borders of the historic forest abut an area of previously known earthquake-induced landslides. Although these terraces could potentially be subject to landslides, proposed earth-disturbing activities would not affect these slopes. Furthermore, construction activities would be completed during the dry season, and are not expected to encounter any surface or groundwater. Implementation of SWPPP BMPs and erosion control measures would reduce any risk of site runoff that could potentially result in

liquefaction. Remediation construction would be short-term and temporary, and all disturbed areas would be re-graded and restored post-construction, and therefore, would have a less-than-significant impact on landslides.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Result in substantial soil erosion or the loss of topsoil.

Impact Analysis:

Site excavation and grading activities would have the potential to result in erosion or the loss of topsoil. However, erosion control measures would be implemented in disturbed areas during and after construction to minimize runoff from the site. Control measures would include practices such as binders, straw, biodegradable mats, and other methods as necessary that would take into account the nature of the soil and slope. All excavated and stockpiled soils would be covered to avoid loss of soil due to wind erosion. All activities would be conducted in accordance with the SWPPP to further minimize potential erosion. Construction activities would be conducted during the dry season, and the potential for erosion would be low. The site would be restored and revegetated post-construction, and with the implementation of the described erosion control measures, impacts would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Impact Analysis:

Grading activities at the site would slightly change some of the current contours, and slopes could potentially be susceptible to erosion and movements. However, the Project area encompasses a relatively small area of approximately 4.5 acres, and is not located in a zone predisposed to landslides or liquefaction. The proposed Project would not affect the steeply sloping terraces along the northern and eastern borders of the historic forest, and slope stabilization and erosion controls described in Section 6b would be employed during and after
Project construction activities. All disturbed areas would be re-graded and restored after construction, and therefore, the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Impact Analysis:

Project activities would not place structures or require personnel to be located on expansive soils, as the shallow bedrock is quite strong and is not considered an expansive soil. Therefore, the remedial and restoration activities would not create any risk to life or property as a result of being located on expansive soils and there would be no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Impact Analysis:

The proposed Project would not involve the installation of septic tanks or alternative wastewater disposal systems. Portable toilets would be brought to the Project site for use by construction staff during the Project.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. USGS 2006. Susceptibility Map of the San Francisco Bay Area. Online: http://geomaps.wr.usgs.gov/sfgeo/liquefaction/susceptibility.html. Site visited April 1, 2015.
3. USGS 2006. Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California. Online: http://earthquake.usgs.gov/research/external/reports/05HQGR0151.pdf. Site visited April 2, 2015.
4. California Department of Conservation 2007. Landslide Maps. Online: http://www.quake.ca.gov/gmaps/WH/landslidemaps.htm. Site visited April 1, 2015.
5. California Department of Conservation 2007. Seismic Hazard Zonation Program. Seismic Hazards Zones Map City and County of San Francisco, 2000. Online: http://gmw.consrv.ca.gov/shmp/download/quad/SAN_FRANCISCO_NORTH/maps/ozn_sf.pdf. Site visited April 1, 2015.
6. California Department of Conservation 2010. Fault Activity Map of California. Online: http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html. Site visited April 1, 2015.
7. NPS 2015. Presidio of San Francisco. Geologic Setting. Online: http://www.nps.gov/prsf/learn/nature/geologicformations.htm. Site visited April 1, 2015.
8. Natural Resources Conservation Service 2013. Web Soil Survey. Online: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Site visited April 1, 2015.
9. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.

7. Greenhouse Gas Emissions

Project Activities Likely to Create an Impact:

- Emissions from use of heavy equipment, trucks, and other construction-related vehicles

Description of Baseline Environmental Conditions:

The setting for climate change and the analysis of greenhouse gas (GHG) emissions is defined by world-wide emissions and their global effects. The baseline conditions include the natural and anthropogenic drivers of global climate change, such as world-wide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004 (IPCC, 2007). The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis relies on guidelines, analyses, policies, and plans for reducing GHG emissions established by the California Air Resources Board (CARB). This is a cumulative impact assessment because, by their nature, any GHG emissions contribute to the adverse environmental impacts of global climate change on a cumulative basis.

Globally, temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity are all affected by the presence of GHGs. The global climate depends on the presence of GHGs to naturally provide the "greenhouse effect." The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO_2), methane, nitrous oxide, and other GHGs that trap heat radiated from the Earth's surface. The global surface temperature would be about 34 degrees (°) Celsius (61° Fahrenheit) colder than it is now if it were not for the natural heat-trapping effect of natural climate change pollutants (CAT, 2006).

California currently emits approximately 500 million metric tons of CO_2 equivalent ($MMTCO_2e$) each year, or between 1 and 2 percent of approximately 49,000 $MMTCO_2e$ emitted globally (CARB, 2014).

The California Global Warming Solutions Act of 2006, Assembly Bill 32 (AB 32), requires that California's GHG emissions be reduced to 1990 levels by 2020. The reduction will be accomplished through an enforceable statewide cap on global warming emissions to be phased in beginning in 2012. AB 32 directs the CARB to develop regulations and a mandatory reporting system to track and monitor global warming emissions levels (AB 32, Chapter 488, Statutes of 2006). The CARB Climate Change Scoping Plan, approved December 2008, provides the framework for achieving California's goals.

In passing AB 32, the California Legislature found that:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

Implementation of the AB 32 Climate Change Scoping Plan requires careful coordination of the State's energy and transportation policies. The Scoping Plan provides strong support for reducing all manners of vehicle and air travel, because travel is a large portion of California's GHG emissions.

Determining significance of GHG emissions relies upon available guidelines from State and local air quality management agencies, where available. The effects of project-related direct and indirect GHG emissions are characterized against a GHG emissions level of 10,000 metric tons per year ($MTCO_2e/yr$) for stationary sources, with construction activities not being subject to a quantitative threshold (BAAQMD, 2012). At a level of less than 10,000 $MTCO_2e/yr$, an industrial project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. Global climate change is a cumulative impact that would be affected by GHG emissions; however, relatively small-scale projects, if found to be less than significant, would not be anticipated to result in cumulatively considerable GHG emissions.

Analysis as to whether or not project activities would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Impact Analysis:

Remediation construction would generate GHG emissions through the use of vehicles and equipment during construction activities. Construction Phase I and Phase II GHG emissions would occur directly from the off-road, heavy-duty equipment and the on-road trucks and motor vehicles needed to transport materials, including debris, mobilize crews, and bring equipment to and from the site. However, the period of construction and remedial action would be short-term, lasting approximately 12 weeks for Phase I, and approximately 12 to 16 weeks for Phase II.

In addition to equipment used on site for excavation and grading, the proposed Project would require approximately 120 truck round trips to haul materials for off-site disposal. However, construction-related air quality controls, such as reducing idling times, proper equipment maintenance, and use of approved equipment, would minimize unnecessary equipment use and reduce GHG emissions. Emissions caused over the short term of the remediation construction would be a fraction of 10,000 $MTC0_2e$, as demonstrated through use of the CalEEMod model, and construction activities would not be subject to any quantitative threshold (BAAQMD, 2012). The CalEEMod model estimated 126 $MTCO_2e$ for Phase I (2015) and 97 $MTCO_2e$ for Phase II (2016) for a project total of 223 $MTCO_2e$. Therefore, the levels of GHG emissions caused by construction equipment would not occur in significant quantities, and would not contribute a significant level of GHG emissions to the environment.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impact Analysis:

The Project would be consistent with the CARB Climate Change Scoping Plan. The Climate Change Scoping Plan depends on coordinating energy and transportation policies, with a focus on reducing emissions from all manners of motor vehicle travel. The proposed remediation construction would include air quality controls, described in Section 7a, to minimize unnecessary equipment use. As such, the Project activities would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Bay Area Air Quality Management District (BAAQMD), 2012. California Environmental Quality Act, Air Quality Guidelines.
3. Bay Area Air Quality Management District (BAAQMD), 2010. Proposed Air Quality CEQA Thresholds of Significance.
4. California Air Resources Board (CARB) 2014. Climate Change Scoping Plan, Building on the Framework Pursuant to AB32.
5. Intergovernmental Panel on Climate Change (IPCC) 2007. Climate Change 2007: Synthesis Report, the fourth IPCC Assessment Report.

8. Hazards and Hazardous Materials

Project Activities Likely to Create an Impact:

- Excavation
- Recycling
- Transportation of materials for off-site disposal

Description of Baseline Environmental Conditions:

Several phases of site investigation were conducted at the Lendrum Court site in response to tenant complaints of glass fragments in soil surrounding the residential buildings. Since 2010, 81 soil samples were collected and analyzed for one or more of the following parameters: Title 22 metals, polynuclear aromatic hydrocarbons (PAHs), dioxins and furans, and total petroleum hydrocarbons. In February 2013, based on the results of the Trust's exploratory trenching, the DTSC directed the Trust to prepare a Preliminary Endangerment Assessment (PEA) Workplan (DTSC, 2013a). The PEA Report documented the presence of debris fill in subsurface soils and identified lead, PAHs (benzo[a]pyrene and dibenzo[a,h]anthracene), and dioxin and furans as potential chemicals of concern (PCOC).

PCOCs were further evaluated to select chemicals of concern (COC) in soil that pose a potential risk to humans or ecological receptors at the site. Site-specific soil target levels were developed that represent levels of contaminants that are protective of site-specific users (residential users) of Lendrum Court. Based on this evaluation, the following COCs were identified in soil at Lendrum Court:

- <u>COCs Presenting a Potential Human Health Risk</u>:
    - Debris Fill: Arsenic, lead, benzo(a)pyrene, benzo(a)pyrene equivalents, dibenzo(a)anthracene, and dioxins/furans present a potential human health risk to residential receptors
    - Outside of the Debris Fill: Lead and dioxins/furans present a potential human health risk to recreational receptors
- <u>COCs Presenting a Potential Ecological Risk</u>:
    - Debris Fill: Barium, copper, lead, and zinc exceed the Presidio soil screening level for ecological buffer zone receptors

- Outside of the Debris Fill: Lead is present at a concentration that exceeds the Presidio soil screening level for special-status ecological receptors

Based on the presence and concentrations of COCs in soil at Lendrum Court, soil over an approximate 2.4-acre area to depths of 5 feet poses a potential risk to human health and the environment and requires remediation. The Army-era debris layer is generally first encountered at depths of approximately 0.5 to 2.5 feet bgs, and is occasionally visible at the surface. The observed thickness of the debris layer varies significantly from approximately 3.0 inches to 5.0 feet. The subsurface debris layer generally contains abundant glass fragments, melted glass, bottles, ceramics, and terra cotta, as well as lesser quantities of brick, charcoal, wire, metal, small animal bones, and burned wood.

Analysis as to whether or not project activities would:

a. Create a significant hazard to the public or the environment throughout the routine transport, use, or disposal of hazardous materials.

Impact Analysis:

The preferred remedial action at the site is consolidation, and capping and monitoring with land use controls. Under this action, approximately 5,000 cy of soil would be anticipated to be excavated, stockpiled, and characterized. Of the excavated soil, approximately 1,500 cy would be anticipated to be hauled for off-site disposal, with the remaining 3,500 cy to be consolidated at other locations of the site. Project implementation would not require the transport, use, or disposal of hazardous materials, except for excavated material that would be hauled offsite. The remedial actions would be conducted in accordance with the Removal Action Work Plan (RAWP) and the federal and State regulations identified in the RAWP.

During remediation activities, access to the site would be restricted to prevent potential public exposure to health or safety risks. Potential exposure of workers and the public to contaminated materials during excavation and stockpiling activities would be controlled through the air quality, dust, and runoff control measures as described in the RAWP and to be further developed in the Air Monitoring Plan and Site Specific Health and Safety Plan (SSHSP). Standard SWPPP BMPs used at the Presidio would be implemented to prevent erosion of disturbed areas and movement of sediment to areas outside the work area.

Transport of excavated materials along local Presidio roadways would only be for distances of approximately 2,000 feet, where trucks would reach northbound or southbound on ramps to Highway 101, which is an authorized haul route. Furthermore, all trucks hauling materials would be covered to avoid dust erosion of contaminated materials. All contaminated materials would be disposed of at a licensed landfill facility. With the implementation of the control measures describe above, the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Impact Analysis:

Excavated materials for stockpiling or disposal of would consist of soils and Army debris found in the upper 0.5 to 5.0 feet of soil. Approximately 115 truck round trips would be necessary to remove excavated material from the site, and would present the most likely scenario for upset or accident conditions resulting in a release of materials to the environment. However, excavated wastes would be solid, non-flammable, non-corrosive, and non-explosive and the unlikely event of a spill of such materials during transport would not present a significant human health risk or environmental threat. Furthermore, stockpiled soils would be stored within fenced temporary work and staging areas, in accordance with Standard SWPPP BMPs and dust control measures, to avoid potential risks to human or environmental health.

Material removed during excavation would be limited to that which has been identified as being contaminated and requiring off-site disposal. Transport of excavated materials along local Presidio roadways would only be for distances of approximately 2,000 feet, where trucks would reach northbound or southbound on ramps to Highway 101, which is an authorized haul route. Contaminated material would be transported in accordance with State and federal

requirements for the handling and transportation of hazardous wastes. Therefore, the Project would not create a significant hazard to the public due to foreseeable conditions resulting in a release of hazardous substances.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

Impact Analysis:

Excavation would not occur within 0.25 mile of an existing or proposed school. Transport would occur along authorized haul routes, which may come within 0.25 mile of existing or proposed schools; however, the transport of materials would not pose a significant hazard due to the reasons listed in Section 8b. Although hazardous materials would be excavated and transported to off-site disposal facilities, the Project would not release significant quantities of hazardous emissions.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to public or the environment.

Impact Analysis:

The Presidio of San Francisco is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[1] However, the proposed remedial actions are designed to reduce long-term hazards to human health and the environment and would not create a significant hazard to the public or the environment. Short-term hazards during construction would be controlled by the SWPPP BMPs and dust control measures previously described.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Impact Analysis:

No road closures or modifications would be required to implement the proposed Project. Traffic-control staff would be employed on haul days to coordinate traffic in the local area with construction trucks entering and leaving the site. Hauling of materials from the site along established routes would not impair implementation of or physically interfere with emergency response or evacuation plans. Construction traffic would also be scheduled to avoid peak traffic times to the extent possible.

[1] The DTSC's sites listed pursuant to HSC § 25356 are subject to listing under the Government Code Section 65962.5. However, sites owned by the federal government are excluded from listing. The implementing regulations provide that sites may be listed pursuant to HSC § 25356 if (a) they are not owned by the federal government, and (b) a release or threatened release of hazardous substances has been confirmed by on-site sampling. (California Code of Regulations, Title 22, Section 67400.1). The Lendrum Court remediation site also does not meet other requirements for listing under Government Code Section 65962.5.

To ensure safety, a SSHSP would be prepared. The HSP describes the controls and procedures to be implemented to minimize the incidents, injury, and health risks associated with the activities to be conducted at the site. The SSHSP would be prepared according to the applicable requirements of 29 CFR 1910.120 (federal workers and contractors), and Code of California Regulations, Title 8, General Industrial Safety Order 5192 (contractors), for work at hazardous waste sites. The SSHSP would contain, at a minimum, the following elements:

- a hazard evaluation;
- names of key personnel and the site safety coordinator;
- a statement that personnel have completed required training;
- medical surveillance requirements and personal protective equipment to be used by site personnel;
- the types and frequency of personal and area air monitoring, instrumentation, and sampling techniques for monitoring of health and safety;
- site control measures, including the designation of work zones (e.g., exclusion, contamination-reduction, and support zones) and safe work procedures for work near structures or topographic breaks, slopes, walls, etc.;
- management of wastes and decontamination procedures for personnel and equipment;
- noise and dust control procedures and action levels;
- site transportation procedures;
- contingency plans, including telephone numbers and contact names; and
- location and routes to the nearest emergency and non-emergency medical care facilities.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.
3. Trust 2002. Presidio Trust Management Plan: Environmental Impact Statement. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-343-PTMP03-EIS.pdf. Site visited April 2, 2015.
4. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
5. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.

9. Hydrology and Water Quality

Project Activities Likely to Create an Impact:

- Topographic changes from excavation and site grading

Description of Baseline Environmental Conditions:

Groundwater in the area is part of the Marina Watershed, which drains to the San Francisco Bay, and is not currently used as an active drinking water source (EKI, 2002). Groundwater and surface water were not encountered during investigation activities at the site (EKI, 2015). Excavation would occur during the dry season, so it is not expected that the Project would encounter surface water, and groundwater would not be encountered within the 4 to 6 inches of soils that would be excavated.

Analysis as to whether or not project activities would:

a. Violate any water quality standards or waste discharge requirements.

Impact Analysis:

The proposed remedial actions would not violate water quality standards or waste discharge requirements. For disturbed areas greater than 1 acre, the Regional Water Quality Control Board (RWQCB) has prepared a National Pollution Discharge Elimination System General Permit for Construction Activity. The construction area associated with the Project site covers approximately 4.5 acres. As a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) project at a federal site, the Project is exempt from acquiring a permit from the RWQCB. However, the work would be conducted pursuant to the substantive requirements of the General Permit for Construction Activity. The Project would include implementation of BMPs for construction site planning and management, erosion and sediment control, and pollution prevention, which would be contained in the SWPPP. The SWPPP would include Project-specific measures to reduce surface runoff and erosion. To uphold water quality standards that are presented in the Clean Water Act and administered by the RWQCB, the remedial design plans for the Project would include an erosion control plan to address on-site erosion, sedimentation, and pollution control concerns. With the implementation and maintenance of these sedimentation and pollution control measures, the Project would not violate any water quality standards, and therefore, would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Impact Analysis:

The proposed Project would not involve pumping or removal of groundwater. While site restoration activities within the landscaped area at the site would include the construction of several concrete patios and a DG path as part of capping activities, the Project would not substantially add impervious surfaces or materials beyond the current conditions. Furthermore, the site would be revegetated after construction with guidance from both the Presidio Trust Planning Department and the Presidio Trust Forestry Department, to help ensure sedimentation and runoff do not occur from the Project. Therefore, the Project is not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table, and would have no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite.

Impact Analysis:

Excavation, consolidation, and capping would alter the current site topography in some areas and result in changes to slopes, which could result in the alteration of existing local surface drainage patterns. Soil on disturbed and backfilled areas would be stabilized in accordance with the final site design, and measures to stabilize the soil, including binders, straw, biodegradable mats, and other methods, would be employed as necessary, taking into account the nature of the soil and slope. In accordance with the erosion control plan in the remedial design, post-construction erosion monitoring and erosion control measures would also be implemented, as necessary. Revegetation activities with guidance from both the Presidio Trust Planning Department and the Presidio Trust Forestry Department would also help to ensure sedimentation and runoff do not occur from the Project site. With the implementation of these controls, the proposed remedial actions would not substantively alter or adversely affect the existing drainage pattern of the site and would not result in substantial erosion or siltation on or offsite. Therefore, this impact would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated

☒ Less Than Significant Impact
☐ No Impact

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Impact Analysis:

The rate or amount of surface runoff potentially could increase slightly during excavation and grading activities; however, these activities would occur during the dry season, and are not anticipated to encounter surface or groundwater. SWPPP BMPs would ensure that any temporary drainage conditions would be managed. After remediation construction activities, soil on disturbed and backfilled areas would be stabilized in accordance with the final site design, and the proposed Project would have no significant long-term impacts on local drainages. Furthermore, no streams or rivers would be affected by the Project activities, and the Project would not substantially alter the existing drainage pattern of the site in a manner that would result in flooding on- or off-site. For these reasons, along with stabilization methods describe in Section 9c, the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Impact Analysis:

The Project would not require use of stormwater drainage systems, nor would it result in substantial additional sources of polluted runoff. Drainage is both overland to the ocean, and through the combined stormwater and wastewater system. SWPPP BMPs would ensure that sediment, soils, and pollutants would not enter the combined system. Therefore, the Project would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Otherwise substantially degrade water quality.

Impact Analysis:

Remediation construction activities, including excavation, grading, and capping, are not expected to encounter surface or groundwater, and would not significantly impact current site conditions. The remediation activities would be conducted in accordance with Presidio requirements and with federal, State, and local regulations and agency documents, including the San Francisco Bay Basin Water Quality Control Plan (Basin Plan), and would be conducted during the dry season. Furthermore, the proposed Project is expected to protect water quality at the Project site because potential sources of future surface or groundwater contamination would be removed.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

g. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Impact Analysis:

The Project site is not located within a 100-year flood hazard area, and would not install structures that would impede or redirect flood flows, and would, therefore, have no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

h. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Impact Analysis:

The proposed Project is not located near a dam or levee, and remediation construction activities are not expected to encounter surface or ground water, as none was discovered during investigation activities, and construction would occur during the dry season. None of the remediation activities would expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam, and therefore, would have no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

i. Inundation by seiche, tsunami, or mudflow.

Impact Analysis:

Based on the geographic location and elevation of the site, the proposed Project would not be inundated by the occurrence of a seiche or tsunami. Areas surrounding the site are a combination of vegetated areas and paved roads, and although localized mudslides could occur in unconsolidated soils overlying bedrock on the slopes abutting the northern and eastern borders of the historic forest, remediation construction activities would occur during the dry season, and the potential for mudflows in native materials would be negligible. Therefore, the proposed Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. EKI. 2002. Development of Presidio-Wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water. Presidio of San Francisco.
3. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.
4. EPA 2015. San Francisco Bay Delta Watershed. Online: http://www2.epa.gov/sfbay-delta/about-watershed. Site visited April 2, 2015.
5. Association of Bay Area Governments (ABAG) 2015. San Francisco Bay Area Hazards. Flood Zones. Online: http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones. Site visited April 2, 2015.
6. Presidio Parkway 2015. Doyle Drive Final Hydrology and Water Resources Technical Report, 2004. Online: http://www.presidioparkway.org/pdfs/feis/tech_reports/final_hydro_tech.pdf. Site visited April 2, 2015.

10. Land Use and Planning

Project Activities Likely to Create an Impact:

- Temporary closure of historic forest
- Construction vehicle traffic crossing Battery East Trail
- LUCs for the constructed cap

Description of Baseline Environmental Conditions:

The Lendrum Court Project is located in the northwestern corner of the Presidio within Area B, which is managed by the Trust in accordance with land uses found in the Presidio Trust Management Plan (PTMP) (Trust, 2002). The proposed Project is located within the Fort Scott planning district, which, according to the PTMP, the land use preference is *Contemplative Retreat* preserving Fort Scott's rich collection of historic buildings and landscapes in a manner that retains the district's contemplative setting. Preferred uses include educational and conference facilities as well as complementary lodging, housing, and support services. Lendrum Court is an area of multi-unit residential housing.

The Battery East Trail, popular for bicyclists and pedestrians, runs east and north of the Project site along Lincoln Boulevard, as well as the Crissy Field overlook, which is located approximately 0.20 mile east of the site. A historic forest containing cypress and eucalyptus is also located along the east and north sides of the Project.

Highway 101 is located immediately west of the Project area running north to south, and access to the site is along Lincoln Boulevard, connecting to Lendrum Court, which provides both vehicle and pedestrian traffic.

The North Fort Scott neighborhood includes 17 residential buildings, containing 42 units and housing approximately 110 residential tenants. Seven multi-unit residential buildings (buildings 1257, 1258, 1259, 1278, 1279, 1280, and 1282) are located throughout the Project area. The public would not be at risk because work areas would be fenced and closed to public access during excavation, hauling, and restoration.

Analysis as to whether or not project activities would:

a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Analysis:

The proposed Project would improve the environmental conditions at the site. Phase II of remediation construction activities would temporarily preclude the use of the historic forest; however, the planned remedial activity would be temporary and would not conflict with any applicable land use plan, policy, or regulation.

A temporary work area, placed at or near the Crissy Field overlook parking area, would be accessed via Lincoln Boulevard, and construction vehicles would have to cross the Battery East Trail to access the temporary work site. However, trucks would use pre-existing access ways, and neither Phase I nor Phase II of Project remediation would prohibit or alter use of the recreational trail.

Post remediation, the site would be restored to pre-construction conditions to the extent possible. Landscaped areas within the Lendrum Court area would be restored in accordance with the Presidio Trust Planning Department's landscape design, and the understory of the historic forest would be restored with guidance from the from the Presidio Trust Forestry Department. Therefore, the Project would have no impact on applicable land use plans.

LUCs will be adopted to preserve the integrity of the constructed cap and to protect future site users, including residents and workers. The LUC will include the area of the former incinerator site. The LUCs will require inspection and maintenance of the cap and require implementation of health and safety and soil management plans for maintenance activities that disturb or penetrate the cover.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impact Analysis:

None of the remediation or restoration activities would conflict with any habitat conservation plan or natural community conservation plan. Phase II remediation construction activities would be conducted within the historic forest north and east of Lendrum Court, which contains mature cypress and eucalyptus trees. However, no trees would be removed as part of the proposed Project, and after construction the forest understory would be revegetated with direction from the Presidio Trust Forestry Department. Therefore, the proposed Project would have no impact on any habitat conservation plan or natural community conservation plan.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Trust 2015. Fort Winfield Scott. Online: http://www.presidio.gov/explore/Pages/fort-scott.aspx. Site visited April 2, 2015.
3. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
4. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.
5. NPS and Trust 2003. Presidio Trails and Bikeways Master Plan and Environmental Assessment. Online: http://www.nps.gov/goga/learn/management/upload/PRES%20Trails%20and%20Bikeways.pdf. Site visited April 2, 2015.
6. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.
7. Trust and NPS 2001. Vegetation Management Plan and Environmental Assessment for the Presidio of San Francisco. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-344-VmpEa_200112.pdf. Site visited April 2, 2015.
8. NPS 1994. Creating a Park for the 21st Century, from Military Post to National Park - Final General Management Plan Amendment, Presidio of San Francisco, Golden Gate National Park Recreation Area, California.
9. NPS, 1993a. National Register of Historic Places Registration Form for the Presidio of San Francisco.
10. Trust 2015. Restoring the Presidio Forest. Online: http://www.presidio.gov/about/Pages/restoring-the-presidio-forest.aspx. Site visited April 3, 2015.

11. Mineral Resources

Project Activities Likely to Create an Impact:

- None

Description of Baseline Environmental Conditions:

There are no known occurrences of mineral resources at the Presidio; therefore, this topic is not analyzed further for the Lendrum Court Project.

Analysis as to whether or not project activities would:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact

☒ No Impact

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. NPS 2015. Presidio of San Francisco. Online: http://www.nps.gov/prsf/index.htm. Site visited March 27, 2015.
2. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.

12. Noise

Project Activities Likely to Create an Impact:

- Noise from heavy equipment, trucks, and other construction-related vehicles

Description of Baseline Environmental Conditions:

The noise environment within the Presidio is largely a function of the volume of automobile traffic, with the quietest areas located farthest from major transportation corridors such as Highway 101 and State Route 1. The proposed Project is located adjacent to Highway 101, which can frequently have noise levels above 67 A-weighted decibels (dBA), which is the Federal Highway Administration (FHWA) Noise Abatement Criterion (NAC) for recreation areas, parks, and residences. Therefore, the Project site is subject to elevated traffic noise levels from the roadway. Noise-sensitive areas within the Project vicinity that could be affected by the remedial activities include the residential units at Lendrum Court, Battery East Trail, and Crissy Field overlook.

As a matter of policy, the Presidio endeavors to meet local standards when feasible. The San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code, 1994) addresses noise in the community. The noise ordinance regulates construction noise; fixed-source noise; and unnecessary, excessive, or offensive noise disturbances within the City. The construction noise regulations in Sections 2907 and 2908 of the San Francisco Police Code provide that:

1. Construction noise is limited to 80 dBA at 100 feet from the equipment during daytime hours (7 a.m. to 8 p.m.). Impact tools are exempt provided that they are equipped with intake and exhaust mufflers.

2. Nighttime construction (8 p.m. to 7 a.m.) that would increase ambient noise levels by 5 dBA or more at the Presidio of San Francisco property line is prohibited unless a permit is granted by the Director of Public Works.

Analysis as to whether or not project activities would result in:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Impact Analysis:

Noise would be generated by on-site equipment used during construction for excavation, grading, and backfilling, and by trucks used for hauling materials offsite and importing clean fill to the site. On-site equipment and trucks transiting to and from the site would operate within the immediate vicinity of residences at Lendrum Court, including buildings 1257, 1258, 1259, 1278, 1279, 1280, and 1282. Noise generated by Project activities would be intermittent, dispersed, and limited to the duration of construction. Noise impacts would be generally limited to nearby sensitive receptors (residents), and intermittent users of the Battery East Trail and Crissy Field overlook. Noise levels are generally considered low when below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. For comparison, levels around 75 dBA are common in busy urban areas and levels up to 85 dBA occur near major freeways and airports.

The proposed Project would temporarily increase noise levels from use of equipment needed to prepare the site, conduct excavations, load trucks, and haul materials offsite. This noise would be generated during daylight hours and in close proximity to the heavily used Highway 101. No nighttime work would occur at the site. Noise generated by the Project would be intermittent, lasting for a span of approximately 12 weeks for Phase I (which would be in the immediate area of residential units), and approximately 12 to 16 weeks for Phase II (which would be in the historic forest). Due to the close proximity of construction work to residential housing along Lendrum Court, noise levels could occasionally exceed nose ordinance standards. However, noise controls would be implemented at the site, including, but not limited to proper tuning of equipment, placement of noisy equipment away from sensitive receptors as practicable, and scheduling noisier operations during mid-day hours when residents are likely to be away from the area.

Most construction activities are capable of causing routine noise levels of approximately 79 to 84 dBA measured 100 feet from the activity if noise controls are not used, or 69 to 74 dBA with noise controls. The following table shows typical noise levels of construction equipment, based on the FHWA Roadway Construction Noise Model. Noise levels in this inventory are expressed in terms of maximum instantaneous levels (Lmax) with a usage factor for the intermittent nature of construction. The acoustical usage factor estimates the fraction of time each piece of construction equipment might operate at full power (i.e., its loudest condition) while in use.

Typical Noise Levels and Usage Factors for Construction Equipment

Equipment	Acoustical Usage Factor (%)	Measured Lmax (dBA at 50 feet)
Auger Drill Rig	20	84
Backhoe	40	78
Compactor (ground)	20	83
Compressor (air)	40	78
Concrete Mixer Truck	40	79
Concrete Pump Truck	20	81
Crane	16	81
Dozer	40	82
Drill Rig Truck	20	79
Drum Mixer	50	80
Dump Truck	40	76
Excavator	40	81
Flat-bed Truck	40	74
Front-end Loader	40	79
Generator	50	81
Grader	40	85
Pickup Truck	40	75
Pneumatic Tools	50	85
Pump	50	81
Welder/Torch	40	74

Source: FHWA, 2006
Notes: Lmax=maximum A-weighted sound level

During excavation, loading, and hauling, noise levels at the site would be about 78 to 81 dBA for excavators, backhoes, and front loaders. The large dump trucks used to transport the soil and debris would be the primary source of noise offsite. Construction trucks generate peak noise levels of about 80 dBA, and at 100 feet, distance would attenuate the level to about 74 dBA. Once on public highways, the trucks would be a minor part of existing traffic and the resulting noise environment. Noise contributed by haul trucks along this route would occur only during the day, when people are less sensitive to noise (as compared to night), and would be intermittent rather than constant.

The Trust has the authority and responsibility to manage the remediation of contamination throughout the Presidio, in both Trust and NPS jurisdictional areas. As warranted, the Trust would implement the appropriate Soundscape Management Policy to minimize the magnitude and duration of the construction noise while protecting other park resources and values. Examples of actions to prevent noise include erecting barriers around construction site and stationary construction equipment such as compressors, which would reduce noise by as much as 5 dBA. Reasonable and feasible noise abatement features measures would be implemented to manage construction noise. Inside buildings, noise from outside sources is reduced by about 15 to 20 dBA due to the attenuating effect of walls and roofs. Due to the temporary nature of the Project, and with implementation of noise controls, construction activities would not result in exposure of persons to or generation of noise levels in excess of standards established in

the local general plan or noise ordinance, or applicable standards of other agencies, and the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.

Impact Analysis:

Although soil excavation and grading are anticipated to generate minor amounts of groundborne vibration and noise, none of the activities are anticipated to generate excessive amounts. The segmented approach to construction would ensure that only minor areas of ground disturbance causing groundborne vibration occur at any given time. Ground-disturbing activities near residential structures would also be scheduled during mid-day hours when residents are likely to be away from the area, as practicable. Construction activities would result in intermittent disturbances of approximately 12 weeks for Phase I, and approximately 12 to 16 weeks for Phase II, and would be considered a temporary impact, and therefore, would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

Impact Analysis:

Remediation construction activities are only scheduled to last for approximately 12 weeks for Phase I, and approximately 12 to 16 weeks for Phase II. Noise impacts would be generally limited to nearby sensitive receptors (residents), and intermittent users of the Battery East Trail and Crissy Field overlook. Upon completion of remediation construction work, no permanent noise increase would remain above existing noise levels, and therefore, there would be no impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact Analysis:

Temporary and periodic increases in ambient noise levels in the Project vicinity would occur above levels existing without the Project. However, noise control measures would be used to keep the noise below substantial levels. These control measures would include, but not be limited to placement of noisy equipment away from sensitive receptors as practicable, noise-control mufflers, and scheduling noisier operations during mid-day hours when residents are likely to be away from the area, as practicable. With the implementation of these noise control measures, increases in the ambient noise level would not be substantial and would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Federal Highway Administration (FHWA) 2006. FHWA Highway Construction Noise Handbook. Online: http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf. Site visited April 1, 2015.
3. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
4. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.

13. Population and Housing

Project Activities Likely to Create an Impact:

- None

Description of Baseline Environmental Conditions:

The Presidio currently has over 1,000 occupied multi-family and single-family housing units, and a residential population of just under 3,000 persons. The Lendrum Court Project is located within the North Fort Scott neighborhood, and includes 17 residential buildings, containing 42 units and housing approximately 110 residents. While construction activities would occur adjacent to residential buildings, work areas would be clearly marked and fenced off from residents, and remediation construction would be conducted in a phased and incremental approach to create as little disruption to residents as possible. Furthermore, the Project would not create a demand for housing nor increase local population. Construction workers, equipment operators, and truck drivers would be from the local labor pool and would maintain their current residences. The Project does not require the removal of any housing. Therefore, this topic is not analyzed further for the proposed Project.

Analysis as to whether or not project activities would:

a. Induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact

☒ No Impact

References Used:

1. Trust 2015. Living at Fort Scott. North Fort Scott. Online: http://www.presidio.gov/explore/Pages/fort-scott.aspx. Site visited April 2, 2015.
2. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.

14. Public Services

Project Activities Likely to Create an Impact:

- None

Description of Baseline Environmental Conditions:

The Presidio is jointly administered by the NPS and the Trust. Police services are provided by the NPS Police, while fire and emergency response services are provided by the San Francisco Fire Department. No schools are located within the vicinity of the proposed Project. The Project site is located within a residential neighborhood that includes 17 multi-unit residential buildings, housing approximately 110 residential tenants. However, the Project would not increase population or the use of public services, and although traffic-control staff would be employed on haul days to coordinate traffic in the local area, it would not inhibit nor alter the access of emergency services to residents within the Project area.

Because proposed Project activities would not increase population or the use of public services, nor would they necessitate physically altered or new government facilities, this topic is not further analyzed for the Lendrum Court Project.

Analysis as to whether or not project activities would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

   - Fire protection
   - Police protection
   - Schools
   - Parks
   - Other public facilities

   Impact Analysis:

   Conclusion:
   ☐ Potentially Significant Impact
   ☐ Potentially Significant Unless Mitigated
   ☐ Less Than Significant Impact
   ☒ No Impact

References Used:

1. EPA 2012. Facility History: Buttonwillow Hazardous Waste Facility. Online: http://www.epa.gov/ocr/TitleVIcases/decisions/padres/Padres_01R-95-R9_Investigation_Report_Appendix_C-2.pdf. Site visited April 2, 2015.
2. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
3. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.

4. EKI 2015. Draft Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation. Presidio of San Francisco.

15. Recreation

Project Activities Likely to Create an Impact:

- None

Description of Baseline Environmental Conditions:

The NPS and Trust manage several recreational areas and trails throughout the Presidio. Recreational areas in the vicinity of the Project area include the Crissy Field recreation area, San Francisco Bay Trail, and Battery East Trail, which are located to the east and north of the Project site, ranging from approximately 0.05 mile to 0.15 mile away. The Crissy Field scenic vista overlook is located approximately 0.10 mile to the southeast of the Project site, offering views of the recreation area and of the San Francisco Bay. These trails and recreational areas would not be closed or re-routed as part of the proposed Project. A temporary staging area would be located near the parking area of the Crissy Field scenic vista overlook; however, as previously discussed, this staging area would be temporary, and would not inhibit use of the overlook. After remediation activities, this staging area would be removed, and the area would be restored to pre-remediation conditions.

The proposed Project would not increase the use or cause the deterioration of existing parks or other recreational facilities, nor would the Project create the necessity for new facilities. Therefore, this topic is not analyzed further for the Lendrum Court Project.

Analysis as to whether or not project activities would:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. NPS and Trust 2003. Presidio Trails and Bikeways Master Plan and Environmental Assessment. Online: http://www.nps.gov/goga/learn/management/upload/PRES%20Trails%20and%20Bikeways.pdf. Site visited April 2, 2015.
3. Trust 2015. Fort Winfield Scott. Online: http://www.presidio.gov/explore/Pages/fort-scott.aspx. Site visited April 2, 2015.
4. Trust 2015. Trails and Overlooks. Online: http://www.presidio.gov/explore/trails/pages/default.aspx. Site visited April 2, 2015.
5. Trust 2015. Trails and Overlooks Map. Online: http://www.presidio.gov/map/PrintMaps/Trails%20and%20Overlooks.pdf. Site visited April 2, 2015.

6. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
7. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.

16. Transportation and Traffic

Project Activities Likely to Create an Impact:

- Transportation of materials and equipment to the Project site
- Daily worker traffic
- Hauling excavated material offsite for temporary stockpiling and disposal
- Delivery of backfill and restoration materials to the Project site

Description of Baseline Environmental Conditions:

The Presidio is part of the Golden Gate National Recreation Area, and includes recreational, residential, and commercial and office-type land uses, in addition to natural areas and zones of non-native forest. The Presidio is a heavily visited facility, with some areas having considerably greater visitation than others. With the exception of two regional highways (Highway 101 and State Route 1) maintained by the California Department of Transportation, roads within the Presidio are maintained by the federal government, and serve local traffic within or through the Presidio. Except at the Golden Gate Bridge toll plaza and gates on the east side of the Presidio, these highways are not readily accessible from the Presidio. Within the Presidio, traffic speeds are low. Congestion occurs intermittently at principal (four-way stop-sign controlled) intersections. Traffic in City neighborhoods surrounding the Presidio varies from very light (in residential neighborhoods) to heavy (along Lombard Street, for example).

The proposed Project is located adjacent to Highway 101, near the Golden Gate Bridge toll plaza, in the northwest portion of the Presidio. Northbound and southbound access ramps to Highway 101 are located approximately 2,000 feet from the Project site along Merchant Road and Lincoln Boulevard, respectively. Lendrum Court and the Project site can be easily accessed from Lincoln Boulevard.

Because they are important to understanding Air Quality impacts, transportation and traffic impacts previously described in Section 3. Air Quality of this Initial Study are not repeated in this section.

Analysis as to whether or not project activities would:

a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

   Impact Analysis:

   Trucks and other Project vehicles required at the site would traverse Highway 101 and local Presidio roadways. Trucks hauling materials for off-site disposal would travel to destinations via Highway 101; this route is consistent with the Freight Traffic Routes identified in the Transportation Element of the General Plan of the City and County of San Francisco. Trucks used for hauling materials to and from the site would use Lincoln Boulevard to access Lendrum Court. As a residential area, the increase in construction vehicle traffic could create a noticeable increase in traffic volume. However, traffic-control staff would be employed on haul days to coordinate traffic on the local roads, and truck trips would be scheduled to avoid peak traffic times to the extent possible. The Project is not anticipated to cause a significant increase in traffic in relation to the existing traffic load and the capacity of the street system.

   From Lendrum Court, northbound construction vehicles would travel north on Lincoln Boulevard to the northbound ramp to Highway 101, approximately 2,000 feet from the intersection of Lendrum Court and Lincoln Boulevard. Southbound trucks leaving from Lendrum Court would travel north on Lincoln Boulevard, take a right onto Merchant Road, and travel north for approximately 700 feet to the Highway 101 southbound on ramp.

   Approximately 115 truck round trips would occur from the Lendrum Court site during remediation construction activities, which would be a relatively low volume, and would have a less-than-significant impact on local traffic and on designated truck routes outside the Presidio, as well as on the local Presidio road network in the Project vicinity.

Cumulative Discussion: Known projects that would occur within or near the Presidio may overlap with the Project's remediation schedule. They include the ongoing Doyle Drive Parkway Replacement Project and continuing Presidio Main Post Update Projects. With the exception of the Doyle Drive project, these projects are approximately 0.75 mile from the Lendrum Court site. Detours and road closures are required during the duration of the Doyle Drive work and change from time to time as work progresses. The Doyle Drive project EIS/EIR concluded that implementation of the Transportation Management Plan for that project would ensure that there are no significant transportation/traffic related impacts (FHWA & SFCTA, 2008).

In addition to the larger projects noted, the NPS and Trust regularly undertake smaller projects and improvements across the Presidio. During 2015 and 2016, these are expected to include projects in the general vicinity of the Lendrum Court Project; namely, improvements to the Bay Trail east and west of the Golden Gate Bridge, work at Battery East Parking and Vista Point, work on the Coastal Trail, and ongoing vegetation management and stewardship work along local trail corridors and in natural area zones. These would not generate substantial truck traffic and would not be long in duration. Any unanticipated delays in the remediation Project schedule would be coordinated with the trail and stewardship work so that these other projects are not adversely affected.

The only scenario in which the Lendrum Court Project could contribute to a cumulative effect to traffic and transportation is during hauling of materials offsite. However, the amount of truck traffic leaving and returning from the Lendrum Court site would be relatively small (approximately 23 trucks per day), and would only be on local Presidio roadways for a short distance before entering Highway 101. Once on Highway 101, the cumulative effect of trucks from the construction site would be negligible in relation to the typical amount of traffic on the roadway. Furthermore, truck staging during hauling would be accommodated within the staging areas and not on roadways, thereby having a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

Impact Analysis:

Due to the Project's close proximity to Lincoln Boulevard and Merchant Road, which are access routes to Highway 101, and the relatively small number of vehicle trips anticipated for the proposed Project, neither schedule, employee vehicles, nor disposal trips would cause traffic volumes to exceed the level of service (LOS) along the haul route.

The nearest intersections, namely Lincoln Boulevard and Merchant Road, currently operate at LOS C (acceptable delay) or better during the a.m. peak hour (typically between 7:30 a.m. and 8:30 a.m.) and p.m. peak hour (typically between 4:30 p.m. and 5:30 p.m.). Truck trips would be scheduled to avoid peak traffic times to the extent possible, and the use of traffic-control staff would further help reduce congestion.

Although multiple projects may occur simultaneously, including the Doyle Drive Parkway Replacement Project and the Presidio Main Post Update Projects, the cumulative traffic impacts from these projects are not expected to increase the LOS for Lincoln Boulevard or Merchant Road.

The level of traffic generated by the Project would be low, and the level of traffic demand would not cause the current LOS to change. The proposed Project would not conflict with any applicable congestion management plan and would have a less-than-significant impact on LOS.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Impact Analysis:

The staging areas would be located on site near the Crissy Field overlook parking area and would not increase any hazard due to a design feature or incompatible uses. The designated truck routes are designed to minimize traffic hazards and provide the most direct routes to Highway 101. Traffic plans would be developed to minimize interaction between park visitors and Project traffic, and traffic-control staff would be employed on haul days to coordinate traffic on the local roads.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Result in inadequate emergency access.

Impact Analysis:

The proposed Project would not result in inadequate emergency access. Project equipment would be stored on site and would not obstruct any transportation route used for emergency access vehicles. Emergency access to the Project would be unimpeded.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. Result in inadequate parking capacity.

Impact Analysis:

During remediation construction activities, parking would be reduced along Lendrum Court as grading and remediation activities would result in the temporary removal of approximately two to eight residential parking spaces. A minimal amount (fewer than 10) parking spaces would also be temporarily reduced at the Crissy Field scenic vista overlook for use as a temporary staging area; however, this reduction in parking is not anticipated to have a considerable effect. Both of these reductions in parking would be temporary, lasting for the duration of remediation construction. The segmented approach to construction at the Lendrum Court landscaped area would also further reduce impacts, as only small sections of parking would be lost at any given time during construction. Neighbors and nearby residents would be notified of the commencement of the Project activities, and Project vehicles may not park in residential spaces that have been assigned to Presidio tenants. Additional parking is located along Armistead Road, directly west of Lendrum Court, due to the temporary nature of the activities and the availability of adequate parking nearby. Impacts on parking capacity would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Impact Analysis:

The proposed Project would not significantly alter local traffic patterns in ways conflicting with adopted policies, plans, or programs that support alternative transportation. Traffic-control staff would be employed on haul days; however, construction vehicle traffic would not necessitate detoured roadways. No bicycle or pedestrian trails would be closed or altered as part of the proposed Project. The effects are not considered significant because of the relatively short duration of the Project, and because no alternate transportation would be altered.

Conclusion:
☐ Potentially Significant Impact

☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. Trust 1992. Presidio Traffic Analysis. Online: https://archive.org/stream/presidiotraffica2419unit/presidiotraffica2419unit_djvu.txt. Site visited April 3, 2015.
3. NPS and Trust 2003. Presidio Trails and Bikeways Master Plan and Environmental Assessment. Online: http://www.nps.gov/goga/learn/management/upload/PRES%20Trails%20and%20Bikeways.pdf. Site visited April 2, 2015.
4. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
5. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.
6. Trust 2015. Transportation. Getting to and Around the Presidio. Online: http://www.presidio.gov/transportation/Pages/default.aspx. Site visited April 3, 2015.

17. Utilities and Service Systems

Project Activities Likely to Create an Impact:

- Soil excavation and disposal

Description of Baseline Environmental Conditions:

Electric, water supply, and communications in the proposed Project area are provided by the Trust. Gas is provided by Pacific Gas and Electric Company. The Trust's Permit No. 05-0246 from the San Francisco Public Utilities Commission allows water to be tested and discharged to the sanitary sewer. However, none of these services would be required for the Project. Any water required for dust control would be obtained from an existing hydrant at the Presidio. Excavated material necessitating removal would be transported to a facility licensed to accept the material.

Analysis as to whether or not project activities would:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Impact Analysis:

The Project would have no wastewater treatment needs.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Impact Analysis:

The proposed activities would not require new wastewater treatment facilities. The Project would not increase or significantly change the amount of rainwater or runoff entering or leaving the Project site.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated

☐ Less Than Significant Impact
☒ No Impact

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Impact Analysis:

The proposed activities would not require an expansion of existing facilities. Erosion control measures would be used to minimize onsite runoff (refer to Section 9).

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Impact Analysis:

No new or expanded water services would be required during or following remediation and restoration. Only minor amounts of water would be used for dust control during Project implementation. Existing entitlements for water would be used for water utilized during the restoration phase of the Project.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

Impact Analysis:

The Project would have no wastewater treatment needs.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.

Impact Analysis:

Excavated material would be transported offsite to an appropriately permitted facility designed to manage the solid waste. Approximately 5,000 cy of in situ soil would be excavated, of which approximately 1,500 cy of excavated material is anticipated to be disposed of at landfills. All materials for disposal would be properly characterized prior to removal and disposal. Material that meets Class II or Class III requirements is currently anticipated to be hauled to the Potrero Hills Landfill in Solano County for disposal. Any material that meets Class I requirements is currently anticipated to be hauled to the Buttonwillow Landfill in Kern County for disposal. As of 2006, the Potrero Hills Landfill had approximately 13,872,000 cy of remaining capacity, and is permitted through February 2048. As of June 2010, the total capacity for the Buttonwillow facility was 13,535,000 cubic yards, and has been continuously permitted since 1982.

In addition to the anticipated disposal facilities, the Trust could also haul waste to several other permitted landfills beyond the regional vicinity of the project if necessary. The most distant approved facilities include the ECDC Environmental Landfill in Salt Lake City, Utah, and the US Ecology, Inc. Landfill in Boise, Idaho. A list of additional permitted landfills is also included in the Presidio's Non-Owned Disposal Site Coverage Endorsement (Zurich 1999). The ECDC Landfill is located on approximately 3,100 acres of privately owned land, approximately 140 miles southeast of Salt Lake City, Utah, and contains over 300 million cubic yards of permitted capacity. The US Ecology, Inc. Landfill is located on an approximately 80-acre site 70 miles southeast of Boise, Idaho, and is permitted to accept both hazardous and non-hazardous material. If additional or alternate landfills other than the anticipated are selected for off-site disposal, the Trust would notify the DTSC of the alternate landfill prior to transport of material offsite. The amount of material hauled to any authorized receiving facility would be negligible compared to permitted capacities, and therefore, the Project would have a less-than-significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

g. Comply with federal, State, and local statutes and regulations related to solid waste.

Impact Analysis:

The remediation activities would be conducted in accordance with federal, State, and local statutes and regulations related to solid waste.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. TRC. 2015. Draft Removal Action Work Plan, Lendrum Court, Presidio of San Francisco, California. May 29, 2015. Online: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60001846. Site visited May 29, 2015.
2. CalRecycle 2015. Solid Waste Information System (SWIS). Facility/Site Summary Details: Potrero Hills Landfill (48-AA-0075). Online: http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/. Site visited March 30, 2015.
3. EPA 2012. Facility History: Buttonwillow Hazardous Waste Facility. Online: http://www.epa.gov/ocr/TitleVIcases/decisions/padres/Padres_01R-95-R9_Investigation_Report_Appendix_C-2.pdf. Site visited April 2, 2015.
4. Trust 2002. Presidio Trust Management Plan. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf. Site visited April 2, 2015.
5. Trust 2002. Presidio Trust Management Plan Executive Summary. Online: http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP01-ExecSum.pdf. Site visited April 2, 2015.
6. Zurich. 1999. Non-Owned Disposal Site Coverage Endorsement Off-Site and On-Site.
7. Waste by Rail Inc. 2013. ECDC. Online: http://www.wbrinc.com/ecdc/. Site visited May 8, 2015.
8. US Ecology. 2015. US Ecology Idaho. Online: https://www.usecology.com/Locations/All-Locations/US-Ecology-Idaho.aspx. Site visited May 8, 2015.

Mandatory Findings of Significance

Based on evidence provided in this Initial Study, DTSC makes the following findings:

a. The project ☐ has ☒ does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to

eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

b. The project ☐ has ☒ does not have impacts that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

c. The project ☐ has ☒ does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Determination of Appropriate Environmental Document:

Based on evidence provided in this Initial Study, DTSC makes the following determination:

☒ The proposed project COULD NOT HAVE a significant effect on the environment. A **Negative Declaration** will be prepared.

☐ The proposed project COULD HAVE a significant effect on the environment. However, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **Mitigated Negative Declaration** will be prepared.

☐ The proposed project MAY HAVE a significant effect on the environment. An **Environmental Impact Report** is required.

☐ The proposed project MAY HAVE a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, but it must analyze only the effects that remain to be addressed.

☐ The proposed project COULD HAVE a significant effect on the environment. However, all potentially significant effects (a) have been analyzed adequately in an earlier Environmental Impact Report or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier Environmental Impact Report or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, nothing further is required.

Certification:

I hereby certify that the statements furnished above and in the attached exhibits, present the data and information required for this initial study evaluation to the best of my ability and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Preparer's Signature	Date
	5/29/15

Preparer's Name	Preparer's Title	Phone #
George Chow	Environmental Scientist/Project Manager	510-540-3879

Branch or Unit Chief Signature	Date
	5/28/15

Branch or Unit Chief Name	Branch or Unit Chief Title	Phone #
Denise Tsuji	Unit Chief, Brownfields & Environmental Restoration, Berkeley Office	510-540-3824

ATTACHEMENT A

FIGURES

Pacific Ocean

San Francisco Bay

Golden Gate Bridge

Lincoln Boulevard

Long Avenue

Highway 101 - El Camino Real

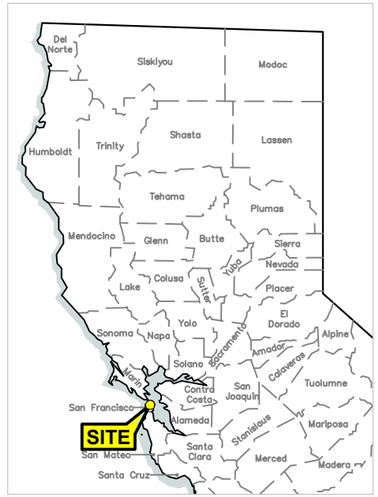
SITE LOCATION

Approximate Former Incinerator Location*

Fort Scott Field

Approximate Boundary of MacArthur Meadow

NOTE:
* = Reference: Hans Barnaal, Presidio Trust.



N

SCALE (FEET)

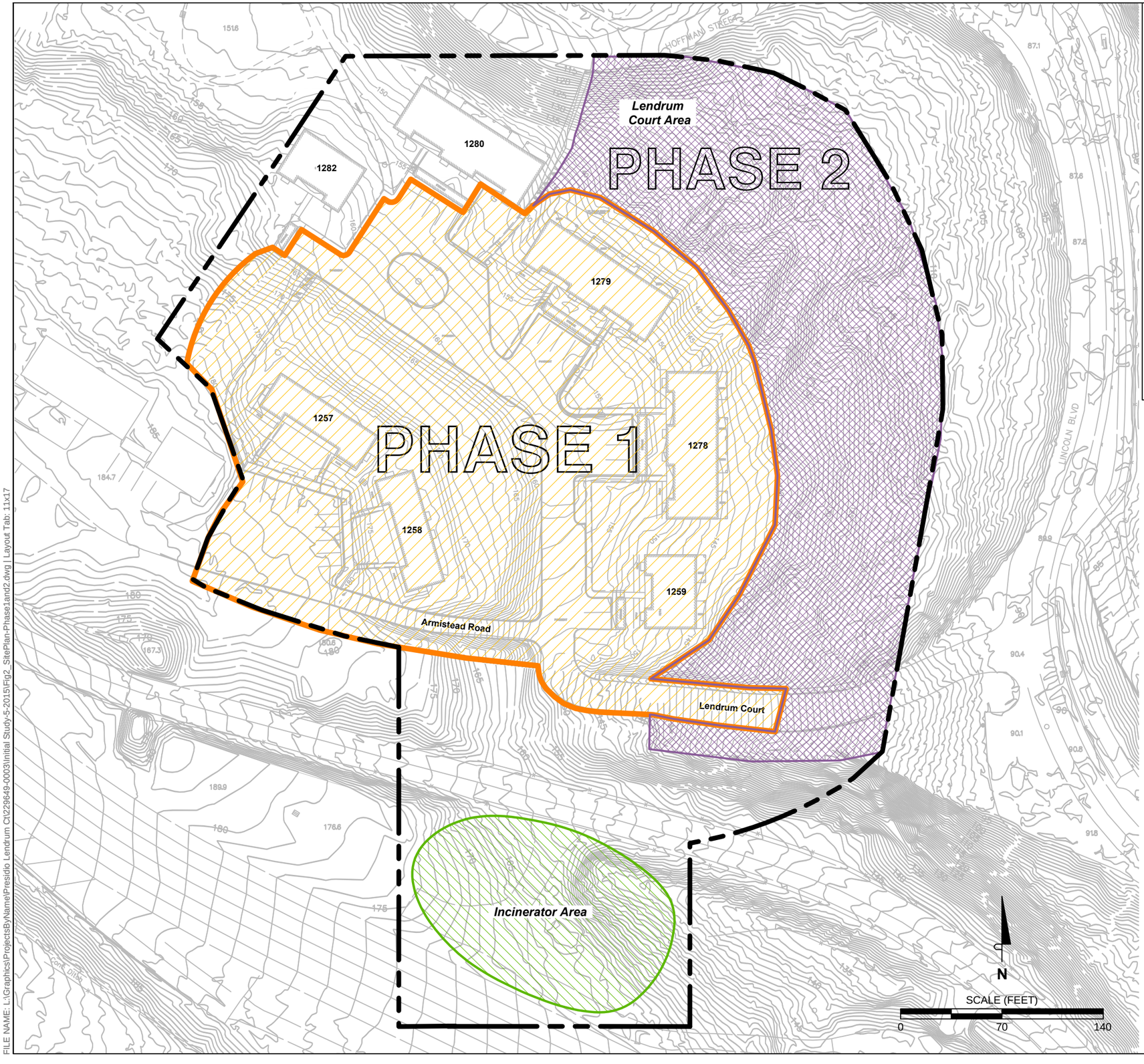
0 600 1,200

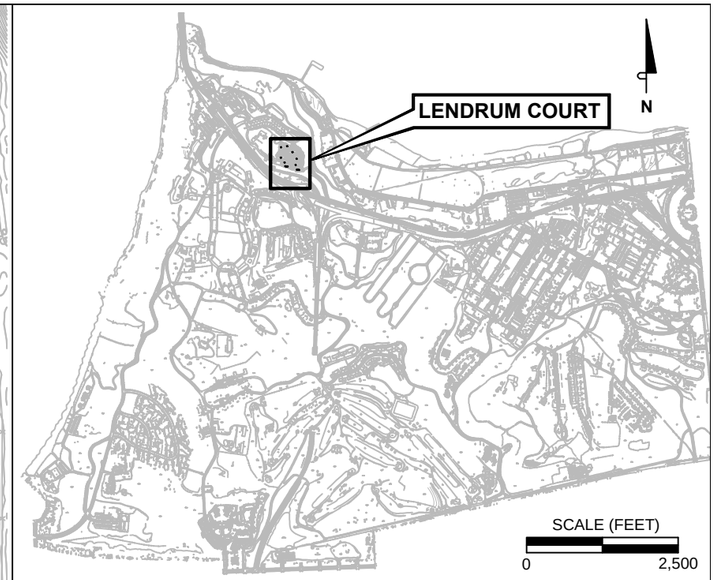
SITE LOCATION MAP

Lendrum Court and Incinerator Area
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 1**

FILE NAME: L:\Graphics\Projects\ByName\Presidio Lendrum Ct\229649-0003\Initial Study-5-2015\Fig1_Site Location Map_REV 28MAY15.dwg | Layout Tab: 11x17_





LEGEND

- Phase 1 remedial action area (approximate)
- Phase 2 remedial action area (approximate)
- Protective in Current Configuration
- Contour level
- Approximate Site Boundary

NOTES:

Areas beneath pavement not mapped by EKI (2015) as containing debris are consequently assumed to contain debris for purposes of establishing a land use control (LUC) boundary.

SITE PLAN

Lendrum Court and Incinerator Area
The Presidio Trust
San Francisco, California

TRC | 229649 | **FIGURE 2**

FILE NAME: L:\Graphics\ProjectsByName\Presidio Lendrum Ct\229649-0003\Initial Study-5-2015\Fig2_SitePlan-Phase1and2.dwg | Layout Tab: 11x17

APPENDIX H

GREEN REMEDIATION EVALUATION MATRIX TABLES

Appendix H - Table H-1
Green Remediation Evaluation Matrix (GREM) - ALTERNATIVE 1: No Action
Lendrum Court
Presidio Trust
San Francisco, California

Stressors	Affected Media	Mechanism/ Effect	Y/N	Score *
Substance Release/Production				
Airborne NOx & SOx	Air	Acid rain & photochemical smog	N	This remedial alternative will not result in an increase in airborne NOx or SOx.
Chloro-fluorocarbon vapors	Air	Ozone depletion	N	This remedial alternative will not produce chloro-fluorocarbon vapors.
Greenhouse gas emissions	Air	Atmospheric warming	N	This remedial alternative will not cause an increase in greenhouse gas emissions.
Airborne particulates/toxic vapors/gases/water vapor	Air	General air pollution/toxic air/humidity increase	N	This remedial alternative will not cause a substantial increase in airborne particulates, toxic vapors, gases, or water vapor.
Liquid waste production	Water	Water toxicity/sediment toxicity/sediment	N	This remedial alternative will not produce liquid waste.
Solid waste production	Land	Land use/toxicity	N	Implementation of this remedial alternative will not produce solid waste.
Thermal Releases				
Warm water	Water	Habitat warming	N	This remedial alternative will not produce warm water.
Warm vapor	Air	Atmospheric humidity	N	This remedial alternative will not produce warm vapor.
Physical Disturbances/Disruptions				
Soil structure disruption	Land	Habitat destruction/ soil Infertility	N	This remedial alternative will not cause soil structure disruption.
Noise/Odor/Vibration/ Aesthetics	General environment	Nuisance & safety	N	This remedial alternative will not be a source of noise, odor, vibration, or substantial aesthetic disruptions.
Traffic	Land; general environment	Nuisance & safety	N	This remedial alternative will not cause traffic disruption.
Land Stagnation	Land; general environment	Remediation time; cleanup efficiency; re-development	N	This alternative will not result in land stagnation because Lendrum Court will continue to be used for for tennant and recreational uses under the No Action Alternative. It is noted that the No Action alternative will not provide for protection of human health from COCs in soil (arsenic, lead, dioxin/furans, and PAHs).
Resource Depletion/Gain (Recycling)				
Petroleum (energy)	Subsurface	Consumption	N	This remedial alternative will not result in petroleum or energy depletion or gain.
Mineral	Subsurface	Consumption	N	This remedial alternative will not result in mineral depletion or gain.
Construction materials (soil/concrete/plastic)	Land	Consumption/reuse	N	This remedial alternative will not result in construction materials depletion or gain.
Land & space	Land	Impoundment/reuse	N	This alternative will not result in substantial land & space depletion because Lendrum Court will continue to be used for tenant and recreational purposes under the No Action Alternative. It is noted that the No Action alternative will not provide for protection of human health from COCs in soil (arsenic, lead, dioxin/furans and PAHs).
Surface water & groundwater	Water, land (subsidence)	Impoundment/ sequester/reuse	N	This remedial alternative will not result in substantial water resource depletion or gain.
Biology resources (plants/trees/animals/ microorganisms)	Air, water, land/forest, subsurface	Species disappearance/ diversity reduction regenerative ability reduction	N	This remedial alternative will not significantly affect biological resources, although existing non-native plant species will remain at the site.

Notes:
Template provided by DTSC's "Interim Advisory for Green Remediation" (December 2009).
COCs = Contaminants of Concern
*Advisory Instructions: "The impacts associated with physical, chemical, or biological stressors are evaluated for each alternative and then assembled into the GREM, a matrix of applicable environmental stress factors and their consequences, constituting a qualitative framework for comparing remedial options" (pg. 2). According to the advisory, qualitative scoring is the most practical approach to rendering the GREM matrix useful as a tool in evaluating opportunities for optimization of remedial alternatives (pg. 23).

Appendix H - Table H-2
Green Remediation Evaluation Matrix (GREM) - ALTERNATIVE 2: Excavation
Lendrum Court
Presidio Trust
San Francisco, California

Stressors	Affected Media	Mechanism/ Effect	Y/N	Score *
Substance Release/Production				
Airborne NOx & SOx	Air	Acid rain & photochemical smog	Y	Engine exhaust from construction equipment and transport vehicles used during remedy implementation will result in emissions that may increase airborne NOx and SOx concentrations. Emissions would be associated with vehicles and equipment used for demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Chloro-fluorocarbon	Air	Ozone depletion	N	Implementation of this remedial alternative will not result in generation of substantial quantities of chloro-fluorocarbon vapors.
Greenhouse gas emissions	Air	Atmospheric warming	Y	Engine exhaust from construction equipment and transport vehicles used during remedy implementation will result in emissions that may increase airborne NOx and SOx concentrations. Emissions would be associated with vehicles and equipment used for demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Airborne particulates/toxic vapors/gases/ water vapor	Air	General air pollution/toxic air/humidity increase	Y	The primary airborne particulate emissions from this alternative are expected to be diesel particulate matter (DPM) and fugitive dust from soil and asphalt material handling. This alternative entails demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Liquid waste production	Water	Water toxicity/sediment toxicity/sediment	Y	Liquid waste potentially generated would be water from decontamination rinsate. It is not anticipated that substantial quantities of liquid waste will be generated during implementation of this remedial alternative due to the implementation of Best Management Practices (BMPs) during construction. A Stormwater Pollution Protection Plan (SWPPP) will be developed to minimize construction impacts to storm water runoff. Additionally, construction activities would be scheduled to take place in the dry season to minimize or eliminate construction impacts to stormwater runoff.
Solid waste production	Land	Land use/toxicity	Y	The primary solid waste that will be produced during implementation of this remedial alternative is approximately 22,500 cy of excavated soil and debris, 6 buildings to be demolished, asphalt road and parking areas to be demolished, and the removal of a section of historic forest requiring offsite disposal/recycling.
Thermal Releases				
Warm water	Water	Habitat warming	N	No significant quantities of warm water are expected to be generated during implementation of this remedial alternative.
Warm vapor	Air	Atmospheric humidity	Y	The primary warm vapor expected to be released during implementation of this remedial alternative is related to engine exhaust from vehicles and equipment used during construction. This alternative entails demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.

Appendix H - Table H-2
Green Remediation Evaluation Matrix (GREM) - ALTERNATIVE 2: Excavation
Lendrum Court
Presidio Trust
San Francisco, California

Stressors	Affected Media	Mechanism/ Effect	Y/N	Score *
Physical Disturbances/Disruptions				
Soil structure disruption	Land	Habitat destruction/ soil Infertility	Y	This remedial alternative will involve extensive soil structure disruption because earth-moving equipment will be mobilized to the site and approximately 22,500 cy of soil will be excavated, fill placed, and an approximate 2.5 acre area graded for slope stabilization, and the removal of a portion of the historic forest.
Noise/Odor/ Vibration/ Aesthetics	General environment	Nuisance & safety	Y	The primary aesthetic disruption from implementation of this remedial alternative will be related to noise, odor, vibration, and visual impact of construction activities. This alternative entails demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Traffic	Land; general environment	Nuisance & safety	Y	Traffic disruption during implementation of this remedial alternative will be associated with trucks used to haul debris and soil associated with this alternative. This alternative entails demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Land Stagnation	Land; general environment	Remediation time; cleanup efficiency; redevelopment	Y	Land stagnation associated with implementation of this remedial alternative is related to the temporary loss of residential properties demolished during the project, recreational use of grass/tenant recreational areas of Lendrum Court during the anticipated 12 month remedial construction period and during the subsequent site restoration work.
Resource Depletion/Gain (Recycling)				
Petroleum (energy)	Subsurface	Consumption	Y	The primary petroleum energy resource depletion during remedy implementation is due to engine fuel demands of construction equipment and trucks used for material transport. This alternative entails demolition of 6 onsite buildings, asphalt road and parking areas, and the removal of a section of historic forest. Emissions would also be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 22,500 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to import, grade, and compact approximately 26,000 cubic yards of clean fill, and equipment needed to restore the site (building and roadway reconstruction and historic forest restoration). Fill will be obtained from local sources as practicable.
Mineral	Subsurface	Consumption	N	This remedial alternative will not be a source of substantial mineral depletion or gain.
Construction materials (soil/concrete/plastic)	Land	Consumption/ reuse	Y	The primary construction material that will be depleted during implementation of this remedial alternative is approximately 26,000 cy of imported clean fill material, as well as the building materials (wood, concrete, and asphalt) needed to restore the residential neighborhood and re builf the residential structures. As practicable, fill will be obtained from an onsite source.
Land & space	Land	Impoundment/ reuse	Y	During implementation of this alternative, access to Lendrum Court will be restricted. However, after completion of the remedy, there will be full access to the site for tenant purposes and the site areas will be restored with new buildings, roadways, parking, and the concept landscape design. In addition, this alternative entails excavation and transport of approximately 22,500 cy of soil and debris to a disposal/recycling facility which will fill up landfill capacity/space. In addition, 26,000 cubic yards of fill will be imported to the site andwill be obtained from a borrow area impacting future use of the borrow area. To mitigate this effect, as practicable, fill will be obtained from areas where clean soil is being excavated locally for subsurface structures or as necessary for final site conditions.
Surface water & groundwater	Water, land (subsidence)	Impoundment/ sequester/reuse	N	Implementation of this remedial alternative will not result in substantial water resource depletion or gain because no dewatering is expected to be necessary because groundwater or perennial surface water bodies do not occur within the area of impacted soil.
Biology resources (plants/trees/ animals/ microorganisms)	Air, water, land/forest, subsurface	Species disappearance/ diversity reduction regenerative ability reduction	Y	There will be significant impact to biological resources during construction especially the historic forest; a section of which will have to be removed to remediate the site.

Notes:
Template provided by DTSC's "Interim Advisory for Green Remediation" (December 2009).
*Advisory Instructions: "The impacts associated with physical, chemical, or biological stressors are evaluated for each alternative and then assembled into the GREM, a matrix of applicable environmental stress factors and their consequences, constituting a qualitative framework for comparing remedial options" (pg. 2). According to the advisory, qualitative scoring is the most practical approach to rendering the GREM matrix useful as a tool in evaluating opportunities for optimization of remedial alternatives (pg. 23).

Appendix H - Table H-3
Green Remediation Evaluation Matrix (GREM) - ALTERNATIVE 3: Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring
Lendrum Court
Presidio Trust
San Francisco, California

Stressors	Affected Media	Mechanism/ Effect	Y/N	Score *
Substance Release/Production				
Airborne NOx & SOx	Air	Acid rain & photochemical smog	Y	Engine exhaust from construction equipment and transport vehicles used during remedy implementation will result in emissions that may increase airborne NOx and SOx concentrations. Emissions would be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 1530 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to excavate, consolidate, grade, and compact approximately 3500 cubic yards (cy) of site soils. Emissions would also be associated with vehicles and equipment used to import, grade, and compact the soil cover - corresponding to 5,300 cy. Fill will be obtained from local sources as practicable.
Chloro-fluorocarbon vapors	Air	Ozone depletion	N	This remedial alternative will not be a source of substantial quantities of chloro-fluorocarbon vapors.
Greenhouse gas emissions	Air	Atmospheric warming	Y	Engine exhaust from construction equipment and transport vehicles used during remedy implementation will result in emissions that may increase airborne NOx and SOx concentrations. Emissions would be associated with vehicles and equipment used for excavation, transport, and offsite disposal of approximately 1530 cubic yards (cy) of in place soil and debris. Emissions would also be associated with vehicles and equipment used to excavate, consolidate, grade, and compact approximately 3500 cubic yards (cy) of site soils. Emissions would also be associated with vehicles and equipment used to import, grade, and compact the soil cover - corresponding to 5,300 cy. Fill will be obtained from local sources as practicable.
Airborne particulates/toxic vapors/gases/water vapor	Air	General air pollution/toxic air/humidity increase	Y	The primary airborne particulate emissions from this alternative are expected to be diesel particulate matter (DPM) and fugitive dust from soil and asphalt material handling. This alternative entails excavation and transport of approximately 1530 cy of soil and debris for disposal at offsite disposal/recycling facilities. DPM and fugitive dust will also be generated from vehicles and equipment used to excavate, consolidate, grade, and compact approximately 3500 cubic yards (cy) of site soils. DPM and fugitive dust will also be associated with vehicles and equipment used to import, grade, and compact the soil cover - corresponding to 5,300 cy. Fill will be obtained from local sources as practicable.
Liquid waste production	Water	Water toxicity/sediment toxicity/sediment	Y	Liquid waste potentially generated would be water from decontamination rinsate. It is not anticipated that substantial quantities of liquid waste will be generated during implementation of this remedial alternative due to the short duration of construction activities (approximately 3 to 5 months for each phase) and implementation of BMPs during construction. A SWPPP will be developed to minimize construction impacts to storm water runnoff. Additionally, construction activities would be scheduled to take place in the dry season to minimize or eliminate construction impacts to stormwater runoff.
Solid waste production	Land	Land use/toxicity	Y	The primary solid waste that will be produced during implementation of this remedial alternative is approximately 1530 cy of excavated soil and asphalt material requiring offsite disposal/recycling.
Thermal Releases				
Warm water	Water	Habitat warming	N	No significant quantities of warm water are expected to be generated during implementation of this remedial alternative.
Warm vapor	Air	Atmospheric humidity	Y	The primary warm vapor expected to be released during implementation of this remedial alternative is related to engine exhaust from vehicles and equipment used during construction. This alternative entails excavation and transport of approximately 1530 cy of soil and debris for disposal at offsite disposal/recycling facilities. DPM and fugitive dust will also be generated from vehicles and equipment used to excavate, consolidate, grade, and compact approximately 3500 cubic yards (cy) of site soils. DPM and fugitive dust will also be associated with vehicles and equipment used to import, grade, and compact the soil cover - corresponding to 5,300 cy. Fill will be obtained from local sources as practicable.
Physical Disturbances/Disruptions				
Soil structure disruption	Land	Habitat destruction/ soil Infertility	Y	This remedial alternative will involve some soil structure disruption because earth-moving equipment will be mobilized to the site and approximately 1500 cy of material of soil will be excavated, fill and cover placed, and an approximate 2 acre area graded for slope stabilization.

Appendix H - Table H-3
Green Remediation Evaluation Matrix (GREM) - ALTERNATIVE 3: Consolidation and Capping with Land Use Controls and Post-Remediation Monitoring
Lendrum Court
Presidio Trust
San Francisco, California

Stressors	Affected Media	Mechanism/ Effect	Y/N	Score *
Noise/Odor/Vibration/ Aesthetics	General environment	Nuisance & safety	Y	The primary aesthetic disruption from implementation of this remedial alternative will be related to noise, odor, vibration, and visual impact of construction activities associated with excavation of approximately 1530 cy of soil, excavation, consolidation, grading, and compaction of approximately 3500 cubic yards (cy) of site soils, and import, grading, and compaction of 1.5 ft of clean fill which corresponds to 5,300 cy. This remedial alternative is expected to entail approximately 3 to 5 months of active construction for each of the two construction phases. Following remedial construction activities and site restoration it is anticipated that the asthetics of the site will be improved because the site will be restored with concept landscape design.
Traffic	Land; general environment	Nuisance & safety	Y	Traffic disruption during implementation of this remedial alternative will be associated with trucks used to haul approximately 1530 cy of excavated soil to offsite disposal/recycling facilities, and trucks used to import approximately 5,300 cy (1.5 ft cover) of clean fill, potentially from a local source area. Traffic disruption associated with construction work will occur over approximately 3 to 5 months for each of the two construction phases.
Land Stagnation	Land; general environment	Remediation time; cleanup efficiency;re-development	Y	Land stagnation associated with implementation of this remedial alternative is related to the loss of tenant recreational use of Lendrum Court softscape areas during the anticipated 3 to 5 month construction period and during the following site restoration work in the Residential/ Landscape area. Because land use and engineered controls will be in place at the site, they will need to be addressed in future site development plans.
Resource Depletion/Gain (Recycling)				
Petroleum (energy)	Subsurface	Consumption	Y	The primary petroleum energy resource depletion during remedy implementation is due to engine fuel demands of construction equipment and trucks used for material transport. This alternative entails excavation and transport of approximately 1530 cy of soil and debris for disposal at offsite disposal/recycling facilities. DPM and fugitive dust will also be generated from vehicles and equipment used to excavate, consolidate, grade, and compact approximately 3500 cubic yards (cy) of site soils. DPM and fugitive dust will also be associated with vehicles and equipment used to import, grade, and compact the soil cover - corresponding to 5,300 cy. Fill will be obtained from local sources as practicable.
Mineral	Subsurface	Consumption	N	This remedial alternative will not be a source of substantial mineral depletion or gain.
Construction materials (soil/concrete/plastic)	Land	Consumption/reuse	Y	The primary construction material that will be depleted during implementation of this remedial alternative is approximately 5,300 cy (1.5 ft cover) of imported clean fill material. Fill will be obtained from local sources as practicable.
Land & space	Land	Impoundment/reuse	Y	During implementation of this alternative, access to Lendrum Court will be limited. However, after completion of the remedy, there will be full access to the landscape areas for tenant recreational purposes and the site restored with concept landscape design and native plant habitat with land use/engineered controls in place. In addition, this alternative entails excavation and transport of approximately 1,530 cy of soil and debris to a disposal/recycling facility which will consume available landfill space if not recycled. In addition, fill imported to the site will be obtained from a borrow area impacting future use of the borrow area. To mitigate this effect, as practicable, fill will be obtained from areas where clean soil is being excavated locally for wetland construction or as necessary for final site conditions.
Surface water & groundwater	Water, land (subsidence)	Impoundment/ sequester/reuse	N	Implementation of this remedial alternative will not result in substantial water resource depletion or gain.
Biology resources (plants/trees/animals/ microorganisms)	Air, water, land/forest, subsurface	Species disappearance/ diversity reduction regenerative ability reduction	Y	There will be short term impact to biological resources during construction. However, site restoration following remedy implementation will result in enhancement of native plant and wildlife habitat.

Notes:
Template provided by DTSC's "Interim Advisory for Green Remediation" (December 2009).
*Advisory Instructions: "The impacts associated with physical, chemical, or biological stressors are evaluated for each alternative and then assembled into the GREM, a matrix of applicable environmental stress factors and their consequences, constituting a qualitative framework for comparing remedial options" (pg. 2). According to the advisory, qualitative scoring is the most practical approach to rendering the GREM matrix useful as a tool in evaluating opportunities for optimization of remedial alternatives (pg. 23).

APPENDIX I

RESPONSIVENESS SUMMARY

Responsiveness Summary
Removal Action Work Plan
Lendrum Court
Presidio of San Francisco, California
July 2015

On June 1, 2015, the California Department of Toxic Substances Control (DTSC) released for public comment the Draft Removal Action Work Plan (RAW) for Lendrum Court, located at the Presidio of San Francisco, California. The Draft RAW, prepared by TRC on behalf of the Presidio Trust (Trust), addresses environmental contamination at the site. An Initial Study (IS) and Draft Negative Declaration (DND) were prepared for the remediation project pursuant to the provisions of the California Environmental Quality Act (CEQA). This Responsiveness Summary summarizes the public comment activities and responds to oral and written comments received on the Draft RAW (or "the Project") and IS and DND (CEQA documents).

Summary of Public Comment Activities

The public comment period for the Draft RAW and the CEQA documents was for 30 days from June 1 through July 1, 2015. The public was notified of the public comment period by an announcement placed in the *San Francisco Chronicle* on June 1, 2015. Notices were also placed on DTSC's EnviroStor website and the Trust's public website. A proposed plan (fact sheet) entitled *Proposed Draft Removal Action Work Plan for Lendrum Court and Notice of Intent to Adopt a California Environmental Quality Act Negative Declaration, Presidio of San Francisco* was prepared to provide information on the Project. It described the evaluation of cleanup alternatives, the proposed alternative, and invited public comments on the Draft RAW and CEQA documents. The fact sheet was mailed or e-mailed to Presidio tenants near the project site, neighborhood associations, environmental agencies, and other interested parties at the start of the public comment period.

During the public comment period, the Draft RAW, CEQA documents, and supporting documents were included in the Administrative Record for the Project at the following Information Repositories:

Presidio Library
103 Montgomery Street
San Francisco, California 94129
Weekdays 9:30 a.m. - 4:30 p.m.

DTSC's Berkeley Regional Office, file room
700 Heinz Avenue
Berkeley, California 94710
Call for an appointment

The Project documents were also posted on the Trust's public website and DTSC's EnviroStor website.

On June 18, 2015, DTSC held a public meeting on the Draft RAW at the Presidio. During the public meeting, DTSC provided information on the Draft RAW, including an overview of the remedial investigations and proposed remedial action. Select members of the public offered oral comments on the proposed remedial action in the Draft RAW at the meeting. The transcript from the public meeting is included in Attachment A of this Responsiveness Summary.

One written comment was received from the California Department of Transportation (Caltrans) during the public comment period. A copy of this correspondence is included in Attachment B of this Responsiveness Summary. Responses to Caltrans's written comments and the oral comments received at the public meeting are provided below.

The Draft RAW, this Responsiveness Summary, the public meeting transcript, CEQA documents, and other documentation regarding approval of the final remedy are included in the Administrative Record and are available for review at the above-mentioned Information Repositories.

Written Comment Received on the Draft RAW and CEQA Documents from Caltrans

Comment: In the section titled Mitigation Responsibility Caltrans writes:
"As the lead agency, the Department of Toxic Substances Control is responsible for all project mitigation, including any needed improvements to State highways."

Response: The proposed remedy for the incinerator area and the Lendrum Court Area does not require modification of State highways.

Comment: In the section titled Project Coordination Caltrans writes:
"The Project's Draft Removal Action Workplan and environmental document cite Caltrans' ongoing Doyle Drive Parkway Replacement Project and the investigation, removal, and capping of the former incinerator area within the Doyle Drive Replacement Project site. We advise you to coordinate with Caltrans' Division of Program & Project Management to discuss plans and mitigation measures for these concurrent projects that may affect State facilities or the Doyle Drive operation."

Response: The Presidio Trust has coordinated closely with Caltrans (Mr. David Yam, Senior Landscape Architect) during the development of the Draft RAW and incorporates correspondence between the Department, Caltrans and the Presidio Trust in Appendix I to the Draft RAW. This coordination will be ongoing throughout the project.

Comment: In the section titled Air Quality, Caltrans writes:
"The document leaves out 'residential units' as a sensitive receptor. Although this may not change the level of document, it is important that the checklist is updated to consider residents as sensitive receptors, which may require additional studies."

Response: DTSC acknowledges and agrees with the comment that residences fall within the category of sensitive receptors. DTSC finds that the air monitoring and dust control measures, as described in the RAW, are adequate to protect human health during remedial construction. In

addition, employing air monitoring and dust control Best Management Practices during construction, the windows of nearby residences will be taped off during soil disturbing activities to provide additional assurance that project activities will not expose sensitive receptors to substantial pollutant concentrations (Draft RAW, Appendix F, Table F-1).

The Presidio Trust has also developed an Air and Dust Monitoring and Mitigation Plan, which will be included as an appendix to the Remedial Design Implementation Plan. Instantaneous particulate matter concentrations will be measured throughout the duration of the project. During construction activities, air samples will also be collected and analyzed for all site contaminants of concern. DTSC will be notified if total dust levels exceed 110 $\mu g/m^3$ or air samples exceed risk based concentration levels for site contaminants of concern, which will be included in the Remedial Design Implementation Plan. If any dust or air monitoring data exceeds risk based concentration levels, DTSC may require additional dust control measures and/or work modifications or stoppage.

In conclusion, DTSC finds that project activities will have a less than significant impact to exposing sensitive receptors to substantial pollutant concentrations, as determined in the May 2015 Initial Study.

Comment: In the section titled Encroachment Permit, Caltrans writes:
"Where construction –related traffic restrictions and detours affect State highways, a Transportation Management Plan or construction TIS may be required."

Response: The Trust has been in contact with Caltrans as mentioned above, and the Project will secure necessary permits prior to remedial construction, including permits required by Caltrans.

Oral Comments Received during the June 18, 2015 Public Meeting

During the presentation by DTSC on the Draft RAW, several attendees representing the public asked questions related to the establishment of clean up levels for lead and dioxin/furans; the distribution of contaminants in the waste fill, the extent of waste fill, and the off-site disposal of waste fill.

Comment: (page 13, line 7 of transcript). Mr. John Sage asked how lead levels found in the incinerator area compared to lead levels found at Lendrum Court. (page 14, line 12 of transcript) Mr. Sage also asked if 80 mg/kg represented the average concentration of lead in soil.

Response: The lead concentrations in soil measured in the incinerator area are similar to lead levels found in soil at Lendrum Court. The sample data for lead in soil in the incinerator area are included in appendix A of the RAW. The sample data for lead in soil in the Lendrum Court area are included in the *Lendrum Court Remedial Investigation Summary Report and Screening Risk Evaluation* (EKI, 2015). The value of 80 mg/kg is what is considered a level that is protective of human health assuming a residential land use.

Comment: (page 14, line 19 of transcript). Mr. John Sage inquired what is considered a safe level of dioxins.

Response: The residential cleanup goal for dioxins and furans is 3.5 picograms per gram. This cleanup goal is shown on Table 1 of the Lendrum Court RAW.

Comment: (page 19, line 19 of transcript). Ms. Lisa Brand asked if the areas to be consolidated under the cap (red highlighted areas on Figure 7 of the RAW) have higher contaminant concentrations ("density") than the remainder of Lendrum Court and is that why they are proposed to be consolidated under the cap.

Response: Soil in areas proposed to be excavated and consolidated do not necessarily have higher concentrations of contaminants than the soil and waste fill in the rest of the Lendrum Court area. The DTSC explained that rather than make a large extension to the cap, these areas could be removed and efficiently consolidated underneath the cap. Confirmation samples would be collected to verify that the remaining soil outside the capped area is below the cleanup goals.

Comment: (page 22, line 8 of transcript). Mr. Michael Bolcerek asked why certain areas of Lendrum Court (e.g., west and south of Building 1280, and around Building 1282) are not included in the cleanup.

Response: The areas west and south of Building 1280 were assessed as part of the remedial investigation process. The soil in these areas was tested and the concentrations of chemicals of concern was found to be below cleanup levels. Because no chemicals were found above cleanup levels, the area does not require cleanup.

Comment: (page 23, line 12 of transcript). Mr. Michael Bolcerek asked about the results of soil sampling that he observed recently at Lendrum Court.

Response: The soil surrounding certain trees at Lendrum Court was sampled to assist in the design of the remedy. The results of this soil sampling will be provided in the forthcoming Remedial Design Implementation Plan.

Comment: (page 24, line 11 of transcript). Mr. Michael Bolcerek asked if soil is being removed prior to installation of the cap.

Response: The existing top soil will be removed prior to placement of the soil cap. The top soil must be removed in order for the soil cap placed on top of the waste to be stable. Top soil that is removed will be hauled offsite for disposal at a licensed disposal facility. TRC explained that the entire site would be graded and that some areas would be lowered and other areas would be built up. Material that would be removed and hauled offsite (i.e., topsoil) would be mostly soil that is not suitable to be used as fill.

Comment: (page 26, line 3 of transcript). Ms. Angelika Nugent asked what will be done with the contaminated soil and how it would be transported.

Response: Soil that cannot be consolidated beneath the cap will be removed by trucks and transported to an appropriately permitted landfill for disposal. The trucks will be covered with tarps to prevent the soil and dust from blowing out of the truck during transportation.

Comment: (page 30, line 8 of transcript). Ms. Lisa Brand asked if there was anything different in the material presented at this meeting as compared to the last tenant meeting held by the Trust.

Response: The Trust and Trust consultant, TRC, indicated that the remedial approach had not changed.

Comment: (page 30, line 22 of transcript). Ms. Lisa Brand asked about the details regarding the schedule and what to expect during construction.

Response: Prior to remedial construction beginning, a Work Notice will be issued to the residents in the neighborhood. The notice will be emailed about one week before the work begins. Remedial construction will be conducted over two construction seasons. The cap in the residential portion of the site is scheduled to be installed in August through November 2015. The cap in the historic forest area is scheduled to be installed in 2016. While earthmoving is occurring in the residential area, the building windows will be sealed similar to when the Trust conducted lead-based paint in soil cleanup in the neighborhood.

Comment: (page 34, line 24 of transcript). Mr. Michael Bolcerek inquired about the types of materials that would be used during construction of the cap.

Response: The cap materials will include gopher wire and in places geotextile fabric primarily for weed control. Clean soil will be placed above the wire to form the cap. In addition, dust control measures will be included and will likely include fabric temporally placed on exposed soil and/or a spray-on clay-type material that creates a thin layer on the exposed soil preventing dust generation.

Comment: (page 38, line 20 of transcript). Mr. John Sage asked if there had been other "surprises", other than the incinerator area, found during the construction of Doyle Drive.

Response: The most significant area of waste debris discovered during the Doyle Drive project is the incinerator area. The Doyle Drive project covers a large area and within that area former underground storage tanks and abandoned fuel lines have been found. These tanks and fuel lines were removed and the area remediated under the oversight of the California Regional Water Quality Control Board.

Comment: (page 39, line 14 of transcript). Mr. Michael Bolcerek inquired as to the origin of the dioxins. Were they from the incinerator or from other military activities?

Response: Dioxins are a product of combustion and are therefore common in the environment. The dioxins present in the waste debris fill are likely from historic operation of the incinerator.

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

Serious Drought.
Help save water!

June 30, 2015

SFVAR016
SF-VAR-PM 9.5
SCH# 2015062003

Mr. George Chow
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710-2721

Lendrum Court Draft Removal Action Work Plan, Presidio of San Francisco – Negative Declaration

Dear Mr. Chow:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. Caltrans' new mission, vision, and goals signal a modernization of our approach to California's transportation system. We review this local project for impacts to the State Highway System in keeping with our mission, vision, and goals for sustainability, livability, economy, safety and health. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy and build communities, not sprawl. They are based on the Negative Declaration. Additional comments may be forthcoming.

Project Understanding
The proposed Project involves the approval of a Removal Action Work Plan by the Department of Toxic Substances Control, submitted by TRC Solutions, Inc. on behalf of The Presidio Trust. The proposed Project remediation activities would consist of excavation, consolidation, capping, characterization, transportation, and off-site disposal of excavated materials. At Lendrum Court, the action would consolidate, remove, and cap incinerator debris and ash, and soil contaminated by chemicals of concern. Post remediation site restoration would occur immediately after remedial construction in 2015 and 2016.

The proposed Project is adjacent to Highway 101 in the northwest portion of the Presidio near the Golden Gate Bridge toll plaza. Northbound and southbound access ramps to Highway 101 are located approximately 2,000 feet from the Project site along Merchant Road and Lincoln Boulevard.

Mitigation Responsibility
As the lead agency, the Department of Toxic Substances Control is responsible for all project

mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, implementation and monitoring responsibilities should be fully discussed for all proposed mitigation measures.

Project Coordination

The Project's Draft Removal Action Workplan and environmental document cite Caltrans' ongoing Doyle Drive Parkway Replacement Project and the investigation, removal, and capping of the former incinerator area within the Doyle Drive Replacement Project site. Furthermore, the proposed Project's remediation schedule may overlap with the Doyle Drive Parkway Replacement Project. We advise you to coordinate with Caltrans' Division of Program & Project Management to discuss plans and mitigation measures for these concurrent projects that may affect State facilities or the Doyle Drive operation. For further assistance regarding the Doyle Drive Parkway Replacement Project, please contact Nidal Tuqan, Caltrans West Region District Division Chief, at (510) 286-5542.

Air Quality

The document should be updated to consider residents as sensitive receptors when answering the CEQA checklist question, "[Would the Project] expose sensitive receptors to substantial pollutant concentrations." This may require additional studies. The document answers this CEQA checklist question with: "There are no sensitive receptors located within or adjacent to the proposed Project site (Lendrum Court Remediation Initial Study, pg. 14)."

The CEQA Air Quality Handbook defines sensitive receptors as: "... people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The location of sensitive receptors is needed to assess toxic impacts on public health."

The description of the Project area is described as: "The Lendrum Court Project is located within the North Fort Scott neighborhood, and includes 17 residential buildings, containing 42 units and housing approximately 110 residents. While construction activities occur adjacent to residential buildings, work areas would be clearly marked and fenced off from residents (pg. 2)."

The document states in its description for baseline activities: "In terms of air quality, sensitive receptors are located at facilities such as schools, hospitals, and nursing facilities. The nearest sensitive receptor to the proposed Project is the University of San Francisco Presidio adult education building, located at 920 Mason Street, approximately 0.2 mile east, adjacent to Crissy Field (pg. 11)."

The document leaves out "residential units" as a sensitive receptor. Although this may not change the level of document, it is important that the checklist is updated to consider residents as sensitive receptors, which may require additional studies.

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. Where construction-related traffic restrictions and detours affect State highways, a Transportation Management Plan or construction TIS may be required. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. See the following website for more information: http://www.dot.ca.gov/hq/traffops/developserv/permits.

Should you have any questions regarding this letter or require additional information, please contact Sherie George at (510) 286-5535 or by email at: sherie.george@dot.ca.gov.

Sincerely,

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

RE: THE PRESIDIO TRUST

_____/

REPORTER'S TRANSCRIPT OF PUBLIC MEETING

REGARDING LENDRUM COURT DRAFT REMOVAL ACTION WORK PLAN

Taken before AMBER EMERICK

Certified Shorthand Reporter No. 13546

State of California

Thursday, June 18, 2015

Fort Scott

1201 Ralston Avenue, Room 002

San Francisco, California 94129

A P P E A R A N C E S

Wayne Hagen, DTSC Public Participation Specialist

George Chow, Project Manager

Denise Tsuji, DTSC Unit Chief

Nina Larssen, Remediation Project Manager

Eileen Fanelli, Remediation Program Manager

Andrea Andersen, Assistant General Counsel-Environment

Also present:

John Sage

Lisa Brand

Sylvia Merlin

Michael Bolcerek

Ann Ostrander

Angelika Nugent

P R O C E E D I N G S

MR. HAGEN: Welcome to Public Meeting for the Lendrum Court Draft Removal Action Work Plan. Go ahead.

There we go. I want to welcome you. Every time that we do any kind of a Removal Action, the Work Plan is a Draft Removal Action. It is not a Final Work Plan until a 30-day public comment period has finished. And so that is what this meeting is about. This is an opportunity for people to make public comments and to ask questions and to find out more about this particular Removal Action.

My name is Wayne Hagen. I'm Department of Toxic Substances Control Public Participation Specialist, which is just a long way of saying that I do public outreach.

And then we also have George Chow here, who is the Project Manager. He's the one who works with all of the Work Plans and all of the Proposals, and makes sure that everything is going to be done correctly.

There we go. We do have an Agenda. I'm going to do some welcome and introductions and talk about what the public comment process is a little bit.

Then George will take up the bulk of the meeting, talking about the DTSC site cleanup process, the background of this particular site, and the investigations that have been done; what were some of the alternatives that were considered, in terms of the cleanup; and what is

our proposed cleanup action.

And at that point, then we'll open it for public comment because there aren't very many people here, and the nature of this particular cleanup, I think while George is giving his presentation, if there's something that confuses you, or you want to know more about, you're welcome to go ahead and ask questions.

Is that okay, George?

MR. CHOW: Yeah.

MR. HAGEN: During the presentation, so that you can get those clarified. And then by the end of George's presentation, we'll just make sure we're taking care of public comments.

All of this will be recorded by a court reporter, and we'll have a transcript of the entire meeting. If you are going to make a public comment -- and I encourage people to please sign in on the sign-in sheet, but if you're going to make a public comment, we appreciate it if you fill out the blue cards back there (indicating). They are for public comment.

We feel like there -- it's really important for a couple of reasons: Number one, we have a record of who made a public comment. And what's important about that is that at the end of the process, we have a document called a "Response to Comments." And everybody who makes a

public comment should be getting a copy of that Response to Comments document.

So it's really important for us to have your name and address, if you were making a public comment. So if you could do that, and then just identify kind of a little summary of what your comment is, so we can identify where it is for the court reporter.

And if you are -- if you've signed in, but you're not going to make any public comment, that's fine. We have the sign-in list, and the public comment cards are two separate things.

Got a few ground rules here. I think everybody knows, heavens, if anything terrible happens here, we've got to go back up the stairs. But do everything in a sensible and calm manner.

Bathrooms are right here (indicating), so that's pretty easy. We'd appreciate it if all cell phones are silenced, or at least have them be on buzz, if you are expecting a call.

Everybody has an opinion. Everybody has their right to their opinion; their ideas. And we want this meeting to go smoothly. We want to hear your opinions. So be respectful. I mean, even if you don't agree with what the other person is saying, let them finish their comment or their question. You will have your chance to

speak as well.

And I always put this in because sometimes -- like last night, I was at a public meeting that a lot of people didn't like the building that was going to be built. They wanted some other use for that piece of land. And I had to keep reminding people that DTSC is only in charge of cleanup. So any other future use of land is not really what we're talking about at this meeting tonight.

So the Presidio Lendrum Court Draft Removal Action Work Plan. The public comment period started June 1st, and it will last until July 1st.

It starts -- the public comment period always starts from the date the Public Notice is published in the paper. In this case, it was published in the San Francisco Chronicle on June the 1st. The Fact Sheet was mailed out May 29th. So hopefully it was in people's mailboxes by the 1st, or at least close enough.

The RAW -- the Draft Work Plan is a big document. And you were sent a Fact Sheet that kind of gives a good synopsis of it. But if you want to read more about it, there are Information Repositories where it's contained.

And if you happen to be in Berkeley, and you want to come to the -- our Berkeley office and come to the file room, you'll want to call for an appointment. You'll

find it there.

The Presidio Trust Library does have it on file. Probably the best places to find it and read the information is the Presidio Trust Lendrum Court Page, which is outlined in here (indicating).

And if anybody is interested, we've got -- do have copies of our slide show there (indicating). So it will have that information.

And also, the DTSC Envirostor Page. Envirostor is a database where we have all of the projects that DTSC is working on. And it's a little difficult to get to -- get to. So let me go ahead and walk you through it.

This is the DTSC -- the DTSC main page. DTSC.CA.GOV. To get to the Envirostor page, you first of all had to go ahead and hit this first tab up here, "About DTSC."

Then you go to the second page, which is who we are, and what we do. I think currently that has some pictures of people on it as well. But the left-hand side has some quick links. And Envirostor is one of those links.

You click on that, and you get something that looks like this (indicating). First you might want to go ahead and type something in that little search box there (indicating), but you're going to get a map that is very

confusing and doesn't tell you very much.

What you really want to do is, go to the "Site Facility Search Tool" there (indicating). Then you type in "Lendrum Court"; push the button down there (indicating), and wa-la. You click on that, and you'll get all the documents associated with the Lendrum Court.

MS. BRAND: Is the Fact Sheet here? I didn't see it, so it would be informative to skim it.

MR. HAGEN: I was hoping -- did we bring any Fact Sheets?

MR. CHOW: I have one copy. So I'll give it to you.

MR. BOLCEREK: Is this what it looked like (indicating)?

Did you receive it?

I didn't receive it either.

MS. BRAND: I didn't either.

MR. HAGEN: Well, the Fact Sheet is also -- the Fact Sheet is also posted on Envirostor. I think it's posted on the Presidio Trust Web page as well.

MS. FANELLI: Yes, it is.

MR. HAGEN: So it's available on both of those. Okay?

So what's important to remember is that this is -- the public comment period doesn't end with this

meeting. This meeting is only part of the public comment period. The public comment period ends July 1st. So if you don't have much to say tonight, you still have ample opportunity to say something.

Or if you say something tonight and next week you'll go, like, "Oh. I should have told them about, you know, this other stuff over there." Then you can go ahead and contact George. Either you can write to him, or you can e-mail him. You can even telephone him. Okay?

But I'll introduce George here now.

MR. CHOW: Okay. Thank you. I'm George. So just to give you some context, this diagram shows DTSC's process for cleanups (indicating). Usually it starts with discovery of the site, and then we will have a preliminary assessment done. So the point of this is to determine whether further action is needed at the site or further investigation, or if nothing needs to be done.

If something needs to be done, then there's a Public Participation Plan, and that documents public participation activities that will occur throughout the cleanup process, such as any sort of community outreach like today.

Then the investigation happens, to get data on the environmental condition of the site. If needed, we have meetings, such as today, and then we get to the Draft

Removal Action Work Plan, which is sort of the decision document that selects a remedy for the environmental issues.

This is the Draft RAW that we're here to talk about today (indicating). It evaluates alternatives, and it also selects one of those as the preferred one. So that's proposed in the Draft RAW.

And then you have the public comment period. All public comments get addressed or considered before finalizing the document.

And then the design document is done, to detail all the activities that will be needed to implement that remedy.

After that, the construction happens. And if needed, operation and maintenance and/or land use restrictions are implemented. And after that, DTSC will certify the site as closed.

Here is the site (indicating). Does everybody here live in Lendrum Court --

MR. SAGE: No.

MR. CHOW: -- or does somebody not?

MR. SAGE: No.

MR. CHOW: It's highlighted in yellow, in relation to the Presidio here (indicating). That's what we're talking about.

So just to give some context, I'm going to talk about a little bit of history about the area before Lendrum Court was there, and then all the environmental work that has happened since 2010.

So next slide, please.

So aerial photos show that in the 1920s, there was an incinerator in the area. But by the 1930s, when Doyle Drive was constructed, it was not there anymore. And Lendrum Court was constructed in the 1970s.

So in October 2010, there were some exploratory trenches to investigate this glass that was coming up with gopher holes in the area. And those trenches show that there was debris and ash in the soil beneath the site. And there was the potential for contamination.

So in 2013, a preliminary endangerment assessment was done. And this involved trenching throughout the Lendrum Court area, where there was debris and ash and contaminants found. The -- it identified potential chemicals of concern; being lead, polycyclic hydrocarbons (PAHs), and dioxins and furans.

So to minimize exposure to these potential hazards, DTSC requested the temporary measures be implemented, which if you live there, you know about it. This was in May, 2014, where new sod was installed in some areas. Fencing was put up to block off some areas of

concern, and some patios and pathways were installed.

Around the same time, the North Fort Scott area and Pilots Row neighborhoods were investigated. So here (indicating), a little hard to see, but every yellow rectangle marks a trench location where a trench was dug to look for debris. And nothing was found anywhere. So it was concluded that the debris was limited to the Lendrum Court area.

So knowing this, the Trust went back and did some more investigation. Each dot on this figure represents a pothole that was dug, to look for debris (indicating). And each of these hollow rectangles is a trench that was dug for the same purpose (indicating).

And all the information from that investigation gives us this estimated extent of the debris, shown by the dotted line that goes around.

So this figure highlights areas where lead was higher than DTSC's standard for residential exposures (indicating). So all the orange spots we consider to be having too high of lead. And you can tell that it's pretty well-correlated with the location of the debris at the site.

Earlier this year, in around January or February, as part of the Doyle Drive construction, a Caltrans contractor discovered debris and ash in this area

that's southeast of Lendrum Court (indicating). And they happened to also find what we think is the former incinerator's footprint. So we directed them to do some sampling, and they did. And there was elevated lead in this area (indicating). So as part of the Doyle Drive construction --

MR. SAGE: George, quick question. You say, "elevated." In relation to the levels that were found in Lendrum Court, to what degree? How much higher?

I mean, it would seem like it would be a lot higher concentration or not necessarily so.

What percentage?

MR. CHOW: I can't recall specifics, but I believe it was higher than was found in Lendrum Court. I don't know -- Eileen, I don't know if you know the relative matters.

MS. FANELLI: The numbers in Lendrum Court vary. But we use the cleanup number that DTSC has established for residential neighborhoods of 80 parts per million.

In the Hook Ramp area, we had some at 80. We had some a little bit higher. It's not a residential use, so in general, then they look at a cleanup number that would be protective of the ecological plants, and the workers that would be out there. And that number is about 160.

But they did have numbers similar in both areas. The range of numbers was similar in both areas because it's the same material.

MR. SAGE: So the concentration was similar. It wasn't 350, compared to 80?

MS. FANELLI: No. But they ranged. I mean, we have some very high numbers in some locations in Lendrum Court.

It's all in that RI report. It ranges up to as high as a thousand. And I think the same is true at the Hook Ramp area.

MR. SAGE: Okay. So the number you stated, 80, was an average?

MS. FANELLI: No. 80 is a number that is protective of residential human health.

MR. SAGE: Okay.

MR. CHOW: So we like 80 or below.

MR. SAGE: Yes. I got it.

MR. BOLCEREK: And dioxins, what is the safe level of dioxins?

MR. CHOW: I don't have that number memorized. I'm sorry.

Basically, it's a class -- dioxins and furans are, like, a class of compounds that are many compounds. And they have a -- they have basically -- there is a

number for the -- for an equivalent to one of the dioxins, but I don't have it memorized. I could get it to you.

MR. BOLCEREK: I'm just wondering, what's the safe level? I mean, we're talking about safe level of lead.

Is there a safe level of --

MS. TSUJI: Yeah. Let me interject here. I'm George's supervisor.

When the Department oversees a cleanup, we always strive to achieve in a cleanup an unrestrictive -- cleaning to an unrestrictive residential cleanup number. So for the lead, it's 80.

Did we put the dioxin number in the Fact Sheet? I can't remember.

MS. BRAND: I don't see it, no.

MS. TSUJI: Each chemical we're cleaning up for. I'm sorry. I'm flipping through my projects here (indicating).

So the RAW document identifies what the residential goal is. So we can refer you to the appropriate part of the RAW, and you can read about it and get the actual number we're targeting

MR. BOLCEREK: Okay.

MR. HAGEN: And, George, you may consider going ahead and having that in the Response to Comments since

there's some interest in it.

MS. TSUJI: Well, we've -- I've made a note, so we can.

MR. CHOW: But I think to more directly answer your concern, what we consider safe is a risk of one -- an excess cancer risk of one in a million.

So the dioxin number we use is based on the science telling us that this number will give you one, or less than one, excess cancers out of a million people who are exposed to this amount of dioxins.

MR. BOLCEREK: I just -- for remediation, I'm just wondering if there's a difference in -- it's mentioned here (indicating) -- whether that's part of the calculation, and how you're coming up with your assessment for the proposed remediation activities, as looking at dioxins versus the lead-based, kind of --

MR. CHOW: Oh --

MR. BOLCEREK: -- elements.

MR. CHOW: Well, the dioxin data we have so far is within the range that we consider within background or ambient. But it exceeds our health risk range, which means, like, in urban environments, there's a range of dioxins that are present. And what we have so far is within that range.

But we've kept it as a chemical of concern

because, one, we don't have that much data. And it exceeds this health range that we set.

MS. FANELLI: I can read the very short two sentences from the RAW on dioxins and furans. This is in Section 4.3.1. "As shown on Table 5, of the seven soil samples analyzed for dioxins and furans from the debris layer TCDD TEQ" -- that is the number that George is referring to that is the equivalent, when you look at all of the different dioxins and furans as a whole -- "they range from 1.26 picograms per gram, and 15.7 picograms per gram. The maximum concentration exceeded the residential site SSL of 3.5."

So 3.5 is the number that we use as the residential cleanup protector.

MR. BOLCEREK: Okay.

MS. FANELLI: Okay.

MR. BOLCEREK: And we have 15.7 as the highest?

MS. FANELLI: Let me finish.

MR. BOLCEREK: Oh, sorry.

MS. FANELLI: "The sample results are within the urban background range of 7 picograms per gram, to 20 picograms per gram."

So let me clarify. That's not the RAW. It is the Remedial Investigation Report, which is also posted on Envirostor, and it is also posted on the Trust Web page.

MR. CHOW: Right.

So the Draft RAW identifies these chemicals of concern for the areas where there's debris fill.

I want to point out that barium, copper, and zinc are only there for -- because they exceed ecological screening levels. So those three aren't really relevant to humans.

Outside of the debris fill, there's lead, and the dioxins and furans are retained as the chemical of concern.

So the Draft RAW evaluates three different alternatives: The first is to do nothing.

The second alternative is to remove everything that's chemically impacted, which would probably have significant impacts on other people.

The third alternative is removing 1,500 cubic yards and consolidating and capping the remaining contaminated material.

And the Adoption of Land Use Controls and long-term monitoring. So the long-term monitoring would be there to ensure the cap is intact and effective into perpetuity.

So in the proposed remedy, the cover would consist of 1.5 feet of clean soil on top of gopher wire and geotextile fabric. And in areas where the trees need

to be protected, the cover is expected to be six inches of rock, instead of soil, because the soil wouldn't let the roots breathe, and the trees would die.

So here (indicating), this figure shows Phase 1 and Phase 2 to the Proposed Remedy. You can't really see, but these are supposed to be the buildings (indicating). So Phase 1 is sort of the immediate Lendrum Court area surrounding the buildings and the court. And that is planned for this summer.

While Phase 2 includes the historic forest to the east and northeast of the site, which is not planned for this summer. It's planned for next summer.

This just shows more detail of the Phase 1. So the green areas means that area would be capped.

The red means that area would be -- or soil from that area would be excavated and either disposed of offsite or consolidated under the cap that's constructed there (indicating).

MS. BRAND: Are those areas that -- they have a higher density as the others?

Is that why?

MR. CHOW: Well, I think it's a practical matter. There's one area of high contamination here (indicating). And you don't necessarily want to make a huge extension of the cap, where you could just remove it

kind of easily.

And, of course, in that case, there will be conformation samples, to make sure that you've moved enough.

And over here (indicating), I think it's just to make a nice shape. Eileen could probably give you the details on what's going on there. But...

MS. FANELLI: Part of it is, it's a sloped area going downhill. So there's a lot of what we call "slope wash" debris on the surface. So we would basically gather all of that and consolidate, if we can.

And if we can't, then that would be hauled offsite. And we would have a clean edge to our cap.

MR. CHOW: So once the final remedy is selected, there will be a design document that will outline the more detailed activities to implement that remedy. And that's going to include these kind of plans to be considerate of the community, such as the air monitoring plan, and dust control plan. Those things will outline measures that will be taken to minimize dust and make sure that the construction project isn't emitting unsafe materials or anything.

And then there's storm water pollution prevention and decontamination. And, of course, before construction happens, there will be a Work Notice to

inform the community on when construction is going to start.

So what's next? Yeah.

So the Trust is going to submit a Final Remedial Design Implementation Plan or report, which I just talked about, for Phase 1 for DTSC's approval. Once we approve that, then they can go do that this summer.

Then the Trust needs to do the same thing for the historic forest. Then they could go do that next summer.

And Wayne is going to finish this off.

MR. HAGEN: Okay. Thank you, George.

Did anybody fill out any cards? It's okay if you didn't right now.

MR. BOLCEREK: I'm going to fill one out.

MR. HAGEN: But, like I said, it will help us identify and get you a Response to Comments document.

Everybody who makes a comment, again, we want them to have the Response to Comments document because we want your questions and your comments addressed. And it will show how they were considered in the finalization of the RAW.

I was -- I was at a public meeting last night involving a school district. And at the end of the meeting -- like I said, we did not have a lot of people.

But at the end of the meeting, they were talking about how they were going to change something already in the Work Plan to address the concern of the resident. And that's what these public comments, and what these questions are for.

So beyond that, who should -- does anybody want to ask a question or make a comment? And/or.

MR. BOLCEREK: So to the south side of 1280, and also to the west side of 1280, there's -- I'm unclear why the cleanup area is relatively limited and not including other areas that would be to the west side of 1280, as well as along the bank of -- I believe that's 1282, which is located here (indicating).

It seems like the rest of Lendrum Court is addressed, but I'm assuming that over time, given that this issue has been here for a while, that there's been some soil contaminant that comes out of the contaminated area into these areas that I would assume would also be addressed in a remediation plan.

MR. CHOW: Well, the plan is for the -- the plan is based on chemical sampling data.

MR. BOLCEREK: So you're saying there's no issue with lead in any of those areas?

MR. CHOW: Right. If you'll go to the lead concentration slide. Right.

So each of these marks pothole samples that were taken (indicating). So -- and this doesn't even encompass some earlier trenches that were taken in the area, I think.

But they are not highlighted orange, meaning the chemical lead level in those locations is below 80.

MR. BOLCEREK: Okay.

MR. CHOW: I mean, it's been tested and has met our standard.

MR. BOLCEREK: Okay.

MR. CHOW: So -- yeah.

MR. BOLCEREK: There was some recent testing going on. I talked to a gentleman who was taking samples recently. He took some samples in the middle of Lendrum Court because I -- I asked about some -- I mean, they were out in our court. And I asked him what he's doing. He said he was taking more samples.

Do we have results of that testing at all? Do you know?

MR. CHOW: I don't know --

MS. FANELLI: There was some samples taken last week around the trees.

MR. BOLCEREK: Yes. Right.

MS. FANELLI: Those samples were collected to help inform the design document that George referred to.

We do not have a formal report yet. Informally, the tree in the island in the parking area looks pretty clean.

MR. BOLCEREK: Okay.

MS. FANELLI: So we're hoping that we don't have to do a lot of work around its roots.

The other trees are within the capped area, and it appears from the data that the cap is appropriate in those areas; that we don't have clean soil around the roots of the trees.

MR. BOLCEREK: So is there going to be -- in the proposal, are you taking a base layer off of the ground area and then putting new -- putting everything in?

So are you digging down a foot and a half or two feet or three feet in these contaminated areas and then putting mesh on that and then putting dirt on top of it? Or is there any -- I mean, are you just putting dirt on top of the cap?

MR. CHOW: The extent of my knowledge is, there's estimated some soil removal. But they are regrading the whole site. They are going to put down the geotextile and the gopher wire. And then on top of that there is 1.5 feet of soil.

So whatever the final condition of the site is, you can assume in most areas there's nothing within 1.5

feet of the surface, unless you're, like, on top of tree roots or something.

MR. SAGE: If they are putting on a foot and a half, they are taking off at least a foot and a half.

MS. FANELLI: That's right.

So what we do is, we grade the site. So the site grade -- you know how steep some of the slopes are. It's going to change slightly. You'll still see the bench as you come off of 1258 and 1257. There's sort of a bench, and then it goes down to Lendrum Court. That bench will be preserved, but it will look a little different.

And when we grade, in some areas we are going to actually add more soil. In some areas, we're going to take soil away. So that's the consolidation. We are going to be grading a base layer that we are going to put gopher wire on.

Then the nominal foot-and-a-half of soil goes back on top of that. So some areas will be areas -- will be cut, and some areas will be built up.

Material that goes offsite is really -- it's going offsite for geotechnical engineering purposes. And that's the shallow soil that has a lot of roots and organic matter in it because it's not -- the organic matter will decompose over time.

So it doesn't meet the engineering properties

that we need to get the stable slope. That's why that stuff goes offsite for disposal, if that makes sense.

MS. NUGENT: What are you going to do with the contaminated soil, and how are you going to transport it out of the Presidio, so it isn't blowing off the trucks?

MS. FANELLI: That's a good question.

We have historically removed contaminated soil by truck. But the trucks are tarped and sealed. They -- material goes off with a document called a "Waste Manifest," that is signed when it leaves. It's called "Cradle-to-Grave," essentially controlled.

So when it's generated at the site, there's a piece of paper that goes with that truck. The truck driver signs off on it. That piece of paper goes to the disposal facility. And the facilities are all licensed disposal facilities to accept the soil. So they are licensed by the state or by the government, depending upon where the facility is located.

MS. NUGENT: So we don't know where it goes?

MS. FANELLI: Our waste -- I think the RAW actually identifies where the primary disposal facilities are.

MS. TSUJI: The Transportation Plan, if they are going to remove any contamination offsite, they identify the route it takes to get out of the Presidio, and the

route they will take to get to the specific landfill.

MS. NUGENT: Oh. It will go into landfill?

MS. TSUJI: Yes. We identify that that landfill is in fact authorized to accept the contaminated soil.

And as Eileen was saying, there's paperwork that is associated with it that's submitted to the Department, where we match where the generator fills it out.

The generator is required to mail it to the Department, and then at the back end, the disposal facility has to sign, accepting the load. And they have to submit that to the Department. And the two pieces match up, to make sure that the send -- the send did -- the receiver did actually receive as planned.

MS. NUGENT: So it's just that we're going to transfer the whole load from the cow to the horse, but it's not going to be taken care of. It's -- that's what I was wondering.

So now somebody else is going to have the problem in the landfill; right?

MS. TSUJI: Well, it is disposed of. Just like our garbage goes to a landfill. Well, the material has to go somewhere.

MS. NUGENT: It's just curiosity. No. I was just wondering if there was something to clean it up, to make it more environmentally-acceptable or something. I

don't know. Just --

MS. TSUJI: That is the balance that the Department has to take a look at; what the contamination is, where it is, how best to mitigate the problem, address the problem, and we have to look at costs. Is it really implementable?

I mean, we could have said, "Presidio, dig everything up." But that would mean destruction of the residences. So we have to take all that into consideration and try and come up with a solution that is still protective, but balances many factors out in trying to, you know, select something that -- that makes some common sense.

MS. FANELLI: And that's the purpose of the consolidation portion. We're consolidating to minimize how much goes to an offsite landfill, so we can manage it here in place.

MS. NUGENT: Just want to finish that up.

So you as a specialist know that there is nothing that could be done about these contaminations?

MR. CHOW: I'm not aware of anything that could -- well, there are -- yeah.

I don't -- I believe this is the proper remedy to choose.

MS. NUGENT: You just have to put it somewhere

else and hope that at one point it will just become nontoxic or...

MR. CHOW: Yeah. Well, I mean, it's better in a landfill than it is in somebody's front yard.

MS. NUGENT: Yeah. Yeah. I'm not debating that.

I'm just wondering, in my mind, if there is a chemical process that one can do with this earth to --

MS. TSUJI: There are chemical processes, but whether or not there's -- a lot of the time it's the volume of the material you have, and the cost to do it.

Many times, to chemically treat soil contamination, is a very, very expensive endeavor. And there's a lot of -- it takes time.

Sometimes some of the chemicals that you have to use to do it is just as harmful to us as what we're trying to clean up.

So, again, it's a balance.

MS. NUGENT: Okay. I understand. Thank you.

MR. HAGEN: If you don't mind, if you can say your name, so that the court reporter can...

MS. NUGENT: It's Angelika Nugent.

THE REPORTER: Would you mind spelling that?

MS. NUGENT: N-U-G-E-N-T, last name. First name, A-N-G-E-L-I-K-A.

MR. HAGEN: Thank you very much. Beautiful name.

And as we go on, if you could identify yourself first, so that then we've got your name associated with the comments with the court reporter.

MS. BRAND: My name is Lisa Brand, B-R-A-N-D. And I have two questions. One is actually for Eileen.

So is there anything different in the material that was delivered today than what you discussed at our last meeting?

It seems to me that this is -- that was a draft, and this is a final -- right? -- that's being presented today?

But nothing has changed; right?

MS. FANELLI: Nothing has changed. What we presented to you in the last meeting was more of the details of the remedial investigation. And we alluded to what you would see in the Draft RAW.

And now you're formally seeing the Draft RAW. And we're in the Formal Draft RAW process. But nothing has changed since our last meeting.

MS. BRAND: Can we get some more detail on what to expect this summer? I mean, this summer is very soon. It's, like, in a week.

So when is this beginning? Will we not be --

will my kids just not be able to use the outdoors, the grassy area for the entire summer?

Is there any sense of how long -- when the Phase 1 will conclude?

MS. TSUJI: Well, first, the Presidio Trust has to submit their design document to the Department. Our engineers and our project manager will review it for approval.

Then upon approval, the Trust will provide a schedule; how long they think the actual physical activity will take place.

That information is highlighted in what we call a "Work Notice," and will be distributed to the residents.

MR. HAGEN: So before any work begins, about a week before any work begins, you should be getting a notice, identifying when the work will start, what work will be done, what you can expect to see during that work.

So then if you have questions or concerns, that gives you about a week to go ahead and bring them up, or contact Eileen, and then find out exactly how that impacts you and your kids and your family.

MS. FANELLI: I can give you the target that the Trust is looking at trying to start.

Right now we have a tentative schedule, which includes getting final documents to DTSC for approval.

And there's still open questions, but we're hoping to actually move dirt the first week in August.

There would be preliminary activities that you might see in July, but they would not be disruptive of the soils at the site. And we're hoping to be disruptive in August.

MS. BRAND: And just August?

MS. FANELLI: We're hoping to be disruptive in August and have the site -- we use the term "stabilized."

Basically we have all the dirt covered with the erosion control fabrics and ready for a rain event. We target October 1.

MS. BRAND: The sealing of the homes, how long of a duration will that part be? You know, the covering of the windows.

MS. FANELLI: We don't have an answer to that yet. We were talking about that.

But maybe Nina can explain. We are looking at doing what we did with lead-based paint. Nina is the expert at lead-based paint.

MS. LARSSEN: So under the lead-based paint program, when we did cleanups around your buildings, what we do is, any excavation to remove the contaminated soil within 20 feet -- any windows within that excavation would be taped. And it would be maintained until that area is

cleaned up. And then we would backfill it with the clean soil, and then move on.

That is the goal right now for how we are going to proceed at Lendrum; open up the soil, take out the contaminated soil, backfill with the clean fill, and move on, sort of in phasing -- a phased approached.

MS. BRAND: So the windows need to be covered during all of those steps?

MS. LARSSEN: Just from what we discussed, we believe it will just be during excavation of the contaminated soil; not when we are backfilling with the clean fill soil.

MS. BRAND: Is that typically a week or a day?

MS. LARSSEN: It may be up to a week. Yeah.

Our goal is to not have your windows taped over the weekend. And we can probably work through that.

If we do have to come back on a Monday, we could re-seal them. Sort of work through that.

MS. FANELLI: The plan is to do it in sequence so that we minimize the whole period of time that any window was taped, and focus on that area; do it, get it done, get the tape off the window; move to the next area and tape those windows.

So I don't think you'll see all windows taped all at the same time.

MS. BRAND: So that just -- in terms of my plans, it would be nice if we could be away for that part of time.

Would that information be in the Work Notice, like the timing of that, or is that always evolving?

MS. FANELLI: We can take that as a comment and try to provide that information.

MS. BRAND: Thank you.

MR. HAGEN: And it can be part of the Work Notice as well.

MS. FANELLI: Sure. It can.

MR. HAGEN: We'll do our best to make certain that you get that information. But I think that's something we want to look at, in terms of our response comments and -- in how we approach that.

It is -- it does get kind of weird doing this kind of work around buildings that are inhabited, and there's people affected and there's children, and there's going outside. There's all of that. So we're very sensitive to that.

MS. BRAND: Thank you.

MR. HAGEN: Any other comments or questions?

MR. BOLCEREK: You mentioned two types. There's a netting element, and then is there a capped element?

There's a gopher netting, which is one element.

Is there another -- my name is Michael Bolcerek, anyway. B-O-L-C-E-R-E-K.

You mentioned two types.

MR. CHOW: So the geotextile, I believe, is for weed control.

MS. FANELLI: In certain areas there will be geotextile. And we use geotextile for a variety of purposes. One is exactly as George said, in areas where we're working in special conditions, which is around tree protection zones, so that we are keeping the tree healthy.

We will probably use a weed control geotextile-type fabric in addition to the gopher wire. In some areas we'll just have the gopher wire, and then clean soil on top.

We are looking at dust control measures. And we may be using some fabrics during construction for dust control.

And we may be using a material that we spray on after we open up the soil. It's a natural material. It's a natural clay-type material with some natural straw that keeps the dust suppressed and makes a nice layer. So it's a -- it's an engineered material, though, but it's an all natural product.

So those are some of the -- when we use the word "geotextile," it's sometimes a group of different types of

products. But all those are detailed in our engineering drawings.

MR. BOLCEREK: So that's a proven method, not to allow -- if the gophers are no longer an issue, it's a proven method that this contaminated soil will not come again to the -- like, when rains come, it's not going to also come up through the topsoil that's been put on?

I'm just -- from a technical perspective, we're not going to see that anymore; for quite some time, at least.

MR. CHOW: I can't imagine, when there's no gophers, why soil or contamination will move up.

MS. TSUJI: And that's a part of why there is the long-term operation and maintenance. There are annual inspections that will occur -- occurs, so to ensure that the cap, the layer -- two foot -- foot-and-a-half layer of soil and gopher wire are in place as they were designed and not damaged because they will have to -- it will have to be maintained.

So that's kind of the check and balance. As long as the cover is there, the route to get to us up top is cut off and remains safe.

And then the check is to annually inspect -- or periodic inspections to ensure that the cap is being maintained.

MR. HAGEN: And every five years, there is a total five-year review of the remedy, to continue to make certain that it's effective.

MR. BOLCEREK: Okay. So the one 1.5 is tamped down, then, on top of it?

MS. FANELLI: It is. I mean, it's stable from a soil stability. We don't want erosion. So we tamp it in place so that it meets engineering stable -- it meets engineering criteria for being stable. It won't erode.

We watch how much we tamp it because we want plants to grow on it because it's a vegetative cover. So when your new landscape -- there will be a new landscape when this is all done as well. And there will be a variety of plants.

So we balance how much we tamp it to make sure it stays in place, yet it will support vegetative growth.

MR. HAGEN: Okay. Any other questions and/or comments? This is not the last chance, as I said, that you're going to get to make a comment. You have until July the 1st, which is coming up at us, but it is still a ways away.

So if you think of something that you would like to see addressed, and that you didn't find out about, or if you have a friend who missed this meeting, "Oh, no. How is she or he or her going to get information to us

that they think is important?" George's e-mail is here (indicating). It's also in the Fact Sheet.

You can also get information to Nina about it. You can make -- you can make your comments and questions go to Nina, because the questions and comments that go to her will be in the Response to Comments document; correct, Nina.

MS. LARSSEN: Yeah.

MR. HAGEN: So this is certainly not the only time that people can go ahead and make their comments.

And a lot of times, when people come to these meetings, they've got questions, and then they walk away, thinking, "Awe, okay. Well, but what about this?"

So please do contact us. Your concerns are important to us, and we want to make certain that they are addressed.

But with any project, we have time frames that we work with. And so we want to continue to move on with our time frames.

MR. SAGE: John Sage. Just one last question: It's beyond the scope of the Lendrum Court remediation and this cleanup, but on the Doyle Drive project, has there been many remediation efforts like this, with the digging in the tunnels, finding other surprises, or not?

MS. FANELLI: This was the largest surprise.

They have run into a few tanks and have cleaned those up as they've gone.

MR. HAGEN: And underground storage tanks are a -- under the purview of the Water Quality Control Board. Sometimes it's frustrating for people to know that -- "Let's see if it's air." There's the Air Quality Management District.

If there's water, it's this.

And DTSC, we're usually about dirt and some ground water. But, you know.

MR. SAGE: So you're not looking to rent apartments out here because you're out here so much?

MR. HAGEN: I don't know.

MR. BOLCEREK: If I could, one more question.

The dioxin. Would you have expected that to come from the incinerator or from other activities that the military did, say, during the '60s and '70s, in the age and origin?

MR. CHOW: I don't think we can really say.

I think we looked into the age-and-origin thing, and it wasn't shipped through the Presidio or used here, to the best of our knowledge.

I think the reason it was analyzed was because of the incinerator.

MS. TSUJI: Our BBQ ash contains dioxin. You go

burn this (indicating), you'll get dioxin.

MR. BOLCEREK: Okay.

MS. TSUJI: It appears, since we weren't around when the Army did their thing -- well, we were, but we weren't watching them and telling them no.

It appears it was more household garbage-type things that got disposed of. And what we're finding is, yes, you burn that; you'll get dioxin, but it's not to say it's the good stuff, but it's the lesser evil dioxin than if you do -- where there's chemicals here (indicating).

Like here (indicating), this has chemicals in it, besides the wood. That tends to create the more complex -- the nastier dioxins.

I'm supervising another project up in Fort Bragg, and it's a lumber mill. And they burned wood debris -- the log debris. And we're finding that dioxin is passing all our tests.

They, for a period of time, took municipal waste in the Bay Area and burned it because they were generating electricity through their broilers. That ash was highly contaminated.

So there was a very dis -- you know, there was a good history. We knew what they were burning. And there was a distinct difference in the quality of the ash.

MR. BOLCEREK: Okay.

MS. BRAND: So even stuff that was burned even in the '30s was full of chemicals, or was full of substances that turned into bad substances?

MS. TSUJI: Yeah. Pretty much for the Bay Area, California in general, we didn't become highly industrialized until World War II.

So industry before then, yes, we do have their legacy to clean up, but it isn't the super ugly, nasty stuff.

You know, I'm trying to -- it's stuff from the war forward. From 1940 forward is when more chemicals were used, and that's what's causing a lot of the contamination we here in the Bay Area are experiencing.

MS. BRAND: But this incinerator was gone by 1930.

MS. FANELLI: That's correct. So it doesn't have the bad dioxins.

The dioxins that we've detected are within the regional background range. So there are some because it's burn material, but it doesn't have the same fingerprint of modern-day burning materials.

MR. HAGEN: Surprisingly enough, not just the dioxin, which we have a background range that is unhealthy in the Bay Area. You know, it's above what is considered healthy. But it's background. It's what you're walking

around in in the Bay Area.

MS. TSUJI: Good example. East Bay hills, the soil there is high in arsenic. It naturally occurs.

Arsenic, if you did kind of the risk study, it's less than one that would be safe for humans. But Mother Nature gave us as high as 19, 20, naturally-occurring arsenic.

We do not require people to clean naturally-occurring materials. We would be digging everything up.

MR. HAGEN: And besides, it's our state rock.

Anyway, with that, then thank you very much for coming to the meeting, and for all of your questions.

And if you've got further questions, comments, you know how to get ahold of us. We appreciate everybody.

MS. TSUJI: We'll stay around for a minute, if anyone has questions on the side.

(Whereupon, the public meeting closed at 7:42 p.m.)

--o0o--

CERTIFICATE OF REPORTER

I, AMBER EMERICK, hereby certify that the foregoing proceedings were taken in shorthand by me, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed into typewriting, and that the foregoing transcript constitutes a full, true, and correct report of said proceedings which took place;

That I am a disinterested person to the said action.

IN WITNESS WHEREOF, I have hereunto set my hand this 2nd day of July, 2015.

_____

AMBER EMERICK CSR No. 13546